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EDITED BY
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PRINCIPLES
OF
CLASS TEACHING

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PRINCIPLES
OF
CLASS TEACHING

BY

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HONORARY PROFESSOR OF EDUCATION IN THE
UNIVERSITY OF MANCHESTER

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PREFACE

This book is written with a very practical purpose. It is meant to help teachers—the younger generation of teachers—who are either already at work, or are preparing for their profession. Complaints are still made that young teachers will not be "trained," but there is sufficient evidence that men and women are far more interested in professional studies than they were ten years ago; and this genuine interest in professional pursuits is now about to be stimulated by the recent Order in Privy Council, requiring that teachers shall study Education before being recognised on the professional Register. But, quite apart from formal plans for "Training," there is a demand, constantly growing, for information about Education in all its aspects; and this demand needs to be met, not only by Courses of Study in Lectures, but by books.

This book, then, has been prepared with the confident belief that such writing is needed, and will be welcomed, as one factor in the task of "Training." The topics which it embraces are very wide, but an elaborate treatment, extending over several volumes, would have been ill adapted to the present situation. The pressure of multifarious duties upon teachers in Great Britain at the present day limits the amount of attention that the majority can give to professional studies; and the first "charge" which the writer laid upon himself was to set out the matter in a form adapted to the practical requirements of teachers now at work, in days when we are slowly emerging as a profession. Practical these chapters are meant to be, in the best sense of the word—arising directly out of the writer's practice, with colleagues, in a large school. Everything here advanced comes from a quarter where Inspectors, Governors, parents, are ever present to watch, and if necessary to challenge, the results.

The style of the book probably suffers on this account, for it has necessarily been put together in spare moments, and even the author anticipates a few of the defects which are due to this cause. But these defects may be outbalanced by the advantage of writing from the workshop instead of from the lecture-room.

So far as the main principles are concerned, these chapters were thought out while the author was engaged in lecturing on Education, and they might have been prepared some years ago. But they have been put to a somewhat severe test during the interval, and the trial may now be regarded as sufficiently complete. Part of this test has involved the co-operation of a number of colleagues who have been on the staff of the Cardiff Intermediate School for Boys since 1898, and the author would like to take this opportunity of thanking these colleagues. It is only by such co-operation that it becomes possible, in Education, to put theory to the test of practice. In the Appendix will be found some Notes of Lessons and other material worked out in this place, and the preference is given to work so done rather than to examples which might have been copied from elsewhere, because it is necessary to emphasize the practical character of these professional pursuits. Whatever objection may be offered to views and examples here advocated, it can at least be alleged that it is the work of craftsmen who are carrying on school business under the ordinary conditions. It need hardly be added that these illustrations are not offered as models for imitation, but merely *as* illustrations and examples.

So much for these chapters under one aspect. From another point of view, a few lines of preface may be helpful. The author has a very distinct conception in his own mind as to the conditions under which progress in the study of Education can be achieved;[1] and in view of the adoption by the British Association of "Education" (with a capital E) as the youngest of the Sciences, the moment is appropriate for a review of these conditions.

It may be questioned whether any of the members of that Association who met at Glasgow last August, recollected the fortunes of the Society for the Development of the Science of Education, which, under its later title of the Education Society, brought together some eminent thinkers, as well as a few practical teachers. Its President in 1879, Alexander Bain, propounded the question, "Is there a Science of Education?" and his book, published about the same time, gave an answer, which, while accepted by many thinkers of that time, has never met with the approval of the teaching profession.

It would be going beyond the scope of a preface to deal with Bain's position (his views on one or two vital matters are referred to in the first chapter) but it is worth while to try and clear the air as to the standpoint from which the study of Education may be regarded.

In popular usage the term "Science" is still restricted to the Natural Sciences, which are limited to a description of natural phenomena, and the discussion of cause and effect in relation to these. But, among scientific men, the term has long ago taken a wider scope, embracing a number of branches of knowledge concerned with human conduct: these are called "Social" Sciences, and while they also are concerned with the description of phenomena, their results cannot meet the same uniform acceptance, because each exponent is compelled to start from certain fundamental premises relating to mankind; and these colour, inevitably, his whole exposition, however detached he may imagine himself to be from the prejudices of his generation. This qualification, however, does not rule the Social Sciences out of the realm of scientific knowledge: they claim such a rank, not because of the finality of their conclusions, but because of their *method*. The distinction between popular knowledge and science, properly so called, is looked for in the mode by which the man of science approaches his study, in *the canons of scientific method* to which he submits his investigations. Any large body of knowledge, when it has been sufficiently thought out by competent men of scientific habit under the guidance of these canons, may fairly claim, if it so desire, to be described as a science. What, then, are these canons? They are fairly well accepted in the scientific world, and may be formulated thus:—

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[1] See reference to Report at foot of p. 264, below.

(1) Scientific exposition must be *ordered, systematised, and classified:* general information, on the contrary, is loose and scattered.

(2) A most important feature in this classification is correlation and differentiation: *the place* of this field of knowledge *in relation to other sciences* must be clearly conceived.

The above canons distinguish science from popular knowledge. Two others serve to distinguish it from false or useless knowledge.

(3) It uses *technical terms,* and *these must be defined* and consistently employed.

(4) *It must be based upon observation and experience.* And, especially, upon a comprehensive observation and ripe experience which acknowledge *all* the factors of the situation.

This last canon involves another which writers sometimes omit, but which is vital in all except the earliest stages of research:—(5) Knowledge to be recognised as science, must not spring wholly out of the thinker's own experience, but must *take account of the results of previous investigators.*[1]

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[1] In respect of the Social Sciences, which deal with the life and ways of men, a sixth canon might be added:—The student should not pay regard exclusively to the work of his predecessors, but should keep his eyes open to the life of

Now when a writer on Education has recognised his obligation to submit, so far as his personal imperfections will allow, to these canons, he may surely claim for his work the name of scientific, for he is toiling along the path of investigation which leads, under favourable conditions, to the production of new ideas and new modes of operation —in a word, to new aspects of truth in the business of Education.

And yet, while the controversy as to the scientific label is thus answered, the teacher is conscious all the while that his practical purpose is not research at all: he is a worker, not a thinker; and his business partakes rather of the nature of an art than of a science.[1] In all the professions there is a similar duality. The Science of Law is a fascinating pursuit, but it stands in many respects apart from the arts of professional practice, and although no lawyer is so foolish as to deny its value in his professional or scientific studies, on the other hand he is never so enamoured of study as to fail to recognise the limit between the arts of the law-

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mankind about him; his sympathies and observations must be in close touch with the everyday world, apart from the Chair, if his results are to accord with truth. And he must include in his observation, a review of earlier times (see *e.g.* Chap. II. below).

[1] Compare Chap. III, § 3; also p. 369 in *Special Reports on Educational Subjects*, Vol. II. (Board of Education, 1898).

court, and the science of the lecture-room. With engineers, with physicians—and with teachers—it is the same, or should be.

It is comparatively easy to realise, apart from each other, these two fields of Theory and Practice, of Science and Art, in the study of Education; but when we come to details, and seek to bring the two together, it is a different matter. The majority of writers in Great Britain have hitherto adopted methods of exposition which are frankly empirical. They have recognised that the time has not arrived to offer the profession a scientific exposition of Education, and they have taken the scientific basis for granted (or, perhaps, they have denied the validity of any such basis) and have taught Education as a practical art. Fitch's *Lectures on Teaching* is the most striking example in this field; and many readers of this book will agree with the present writer in acknowledging the practical service that those *Lectures* have rendered for many years past. It would be invidious to mention other books of more recent date which have been content with the same common-sense, or "practical," starting point.

Such books—or at least the best of them—have been successful, *i.e.* they have exercised a marked influence upon the practice of the profession. But the books which have sought a more ambitious foundation, relying upon a formal foundation in scientific thinking—Bain's *Education as a Science* may be selected as an example—these have, by comparison, failed, and their failure has done much to discredit the study of Education in Great Britain. Some may be inclined to say that this failure is due to permanent elements connected with the pursuit of Education; they would hold that Education is a kind of knowledge which does not lend itself to scientific treatment. But there is surely no warrant, in the nature of the study itself, for such a pessimistic view, and it seems more reasonable to urge that Bain and his friends in the '70s were right in seeking to place their study on a scientific foundation, but were not always prepared to obey the canons of scientific method.

And their most dangerous deflection—obvious enough now in the light of later times—was in their divorce from experience. The empirical writers, the handicraftsmen of the time, such as Edward Thring, were doing the work of the schools, apart from men like Bain, who were trying to write the theory of the same business, apart from school-life.

The combination of scientific method and practical experience was lacking at that time, and it would be very presumptuous in the present writer, if he were to hope that he has adequately achieved such a combination here. But it is at least attempted: not from choice, but from necessity, the necessity laid upon a student who has had the privilege of studying in a scientific environment. The distinctive note of Professor Rein's labours at Jena[1] is not, as is often supposed, in the special Herbartian label which is attached to his Seminar, but in the perpetual combination of scientific method with daily practice among children. The result can best be expressed by the term *System*. A professional man, be he physician, soldier, banker, or what not, who has trained his mind by prolonged study on scientific methods, and at the same time has continually practised his art, arrives at length, with ripening years, at a well-ordered system of thought, which guides him in every professional act. It is his own system, and cannot, in all its details, be appropriated by others. When such a body of systematic thought is put down in black and white, its usefulness to others will depend upon the obedience rendered by its author to the canons of scientific method; for these criteria alone will determine its validity, and will diminish the amount of error arising from the personal equation.

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[1] See Preface to Rein's *Pädagogik im Grundriss* (or Van Liew's translation, p. ix).

Whether or no described by the term *System*, every one who practises a calling performs his work in obedience to some rough-and-ready scheme of thought which has grown up in his own brain, and the study of Education can do nothing more than help to shape these thoughts into something *more* systematic, more worthy of the name of "System."

Thus this book is offered as an attempt at *systematic* exposition of those parts of Education which are covered by the title. And the author's aim will be mainly achieved, not in obtaining converts to his own doctrines, but in pointing out a road, which others, with better equipment, may follow hereafter to issues far beyond his range.

Acknowledgments should be made, not only to colleagues who have helped to find errors in the proofs, but especially to Mr. A. E. Twentyman, of the Board of Education Library, who has assisted with the Index, and to Dr. Fletcher, Editor of this series of *Manuals for Teachers*, who has read and criticised the whole book. If these acknowledgments took a wider range, it would be hard to find a limit, for the footnotes bear witness to a few only of the teachers from whom, since boyhood days, it has been the writer's privilege to learn.

CARDIFF, *S. David's Day*, 1902.

A few alterations have been inserted (see *e.g.* p. 97) in the present reprint (chiefly in references to publications) where they can be made without disturbing the paging of the stereotyped plates. J. J. F.

MANCHESTER, July 19, 1904.

In a further reprint I have revised the references: more especially to Reynolds, where I can now refer to the Teachers' Edition (2/-) which I have edited for Blackie & Son, with the view of helping teachers to realize the value of the *Discourses* as a guide in method (see Chap. XV below).

And to Dewey, where I can now refer to *The School and the Child* and *Educational Essays* (Blackie, 1/- and 1/6), collections from Dewey's writings which makes him for the first time easily accessible to English readers. Other important works are reaching us from the United States: I may call attention to three which have a special bearing on Chapters XII–XV; Bagley: The Educative Process; and O'Shea: The Dynamic Factor in Education: Linguistic Development and Education (all published by The Macmillan Company). J. J. F.

MANCHESTER, Nov., 1910.

In successive reprints since 1902 a few alterations have been made in order to bring references to publications up to date, wherever this could be done without disturbing the paging of the stereotyped plates. More especially I made use of references in Chapter XV to Reynolds' *Discourses on Art*, for which I prepared a special edition for teachers (Blackie & Son); also in various chapters to essays by John Dewey (*The School and the Child*, Blackie & Son). I may also refer to the popular contribution entitled *The School*, issued in The Home University Library, particularly for a fuller treatment of Child Development (pp. 93–98 below) and of Types of Schools (Chap. IV below).

It is gratifying to find that although this study of principles was thought out some twenty years ago the exposition is still found to be of service as a practical guide to teachers and as a text-book for students in training colleges. The fact is that the book was in advance of its time; general professional practice in both primary and secondary schools is now catching up with it. I am sure that my good friend and colleague, Professor Adams, whose exposition of *The New Teaching* is up to date, would agree with this complacent verdict by an author upon his own offspring, that will shortly come of age. As originally written the text was based on the author's exceptional opportunities, first as a student of education and then as a headmaster working under remarkably free conditions with a group of able colleagues. As now reprinted it explains to the reader much that has happened since in the development of British theory and practice, and will interpret principles underlying the procedure as followed in our schools at the present day.

J. J. F.

MANCHESTER, June, 1919.

TABLE OF CONTENTS

PAGE

PREFACE v

ANALYSIS OF CHAPTERS xxiii

SECTION I

CHAPTER I

INTRODUCTION 1

SECTION II

THE CURRICULUM IN GENERAL

CHAPTER II

MOTIVES IN THE SELECTION OF MATERIAL 13

CHAPTER III

THE NATURE OF THE PURSUITS SELECTED FOR CLASS TEACHING 53

CHAPTER IV

PAGE
DIFFERENTIATION 92

CHAPTER V

A FEW MAXIMS 116

SECTION III

THE CURRICULUM FOR EACH PERIOD OF SCHOOL LIFE

CHAPTER VI

THE INFANT SCHOOL (OR KINDERGARTEN) 126

CHAPTER VII

LATER CHILDHOOD 147

CHAPTER VIII

THE BEGINNINGS OF BOYHOOD AND GIRLHOOD 158

CHAPTER IX

THE LAST YEARS OF THE PRIMARY SCHOOL 208

CHAPTER X

THE HIGHER ELEMENTARY (HIGHER PRIMARY) SCHOOL . 222

CHAPTER XI

THE CURRICULUM OF THE SECONDARY SCHOOL 231

SECTION IV

METHOD

CHAPTER XII

PAGE
FIRST TYPE OF LESSONS—THE ACQUIREMENT OF KNOWLEDGE 261

CHAPTER XIII

THE ACQUIREMENT OF KNOWLEDGE (*continued*)—STEPS FOLLOWED IN THE PROCESS 309

CHAPTER XIV

SECOND TYPE OF LESSONS—THE ACQUIREMENT OF SKILL 334

CHAPTER XV

THE ACQUIREMENT OF SKILL (*continued*)—STEPS ADAPTED TO THE SECOND TYPE OF LESSONS 353

SECTION V

CHAPTER XVI

A FEW HINTS ON CLASS MANAGEMENT 385

APPENDIX

SPECIMEN COURSES OF STUDY AND NOTES OF LESSONS REFERRED TO IN THE TEXT 413

INDEX 437

ANALYSIS

SECTION I

CHAPTER I

INTRODUCTION

§ 1. A definition of Education—explained and illustrated *Page* 1

§ 2. From this we derive three divisions of the Science—The Aim, The Control, and the Practice of Education: this order needs to be adhered to in exposition . . . . *Page* 4

§ 3. Summary review of doctrine relating to the Aim of Education: particularly as regards Ethics *Page* 6

§ 4. Topics included in the Control of Education: Administration, Organisation, Management. The teacher's success in Class Teaching is strictly limited by the Control of those who administer and organise the Schools . . . . *Page* 9

§ 5. The term "Practice" as used in this volume does not exclude "Theory."

Analysis of topics included under this head:—

The unit in Education is The Individual Child.

- Mental Life of the child.
    - Direct means of influence:—
      By *Training:*
        - (*a*) Government.
        - (*b*) Guidance.
    - Indirect means of influence:—
      By *Teaching*, which includes various branches:
        - (*a*) Of Instruction in Knowledge.
        - (*b*) Of Occupation (or Performance) in Arts.
- Physical Life.

Teaching alone is the topic of this volume, and it is treated mainly under conditions where many pupils are gathered together to form Classes . . . *Page* 11

SECTION II

THE CURRICULUM IN GENERAL

CHAPTER II

MOTIVES IN THE SELECTION OF MATERIAL

§ 1. *Résumé.* Why not leave the child alone? We teach him because he has (1) no capacity for selecting suitable pursuits, (2) no method in handling these to his advantage. But we had better allow him some little scope for freedom after all . . . . *Page* 18

§ 2. The search for principles in the selection of Material. These range in two hostile groups: the child and the adult pull in opposite ways.

The adult lays upon the child the demand of EQUIPMENT (*a*) for the *Necessities* of life, and (*b*) for *Progress* . . . . *Page* 21

§ 3. This plea is checked by another—the plea of INHERITANCE or Tradition, which preserves culture from age to age. The travesty of this principle has produced a notorious reaction since 1850 . *Page* 25

§ 4. The opposite array of principles: these recognise the NATURE OF THE CHILD, as a factor not only in the choice of Method, but of Material. They are modern, but the sentiment at their root is early Christian.

A parable by way of illustration.

Growth (compare with the Herbartian Theory of Culture-Epochs) . . . . *Page* 27

§ 5. *Balance.*—Criticism of the theory of the Harmonious Development of Faculty . . . . *Page* 31

§ 6. *Interest and Apperception.*—These terms spring from the school of Pestalozzi. "*Interest*" with Herbart differs from the use of the term among English writers on Education. Native and acquired interests.

Apperception points to the relation between the child's own mental store and the new ideas which are to be presented to him . . . . *Page* 35

§ 7. *Correlation* and *Self-Activity* are other terms from the vocabulary of educational reformers which are powerfully influencing the teacher's practice to-day *Page* 39

§ 8. *Concentration*, or *Unity*, completes the list: this points directly towards the ethical ideal, and reconciles the conflict between the "Old Education" and the New. Old Greek Education . . . . *Page* 43

§ 9. Summary . . . . *Page* 50

§ 10. The child a "social" being . . . . *Page* 51

CHAPTER III

THE NATURE OF THE PURSUITS SELECTED FOR CLASS TEACHING

§ 1. A chapter usually omitted in books on Teaching: and yet necessary. The inquiry should be conducted, so far as possible, apart from ulterior considerations *Page* 54

§ 2. First line of demarcation: pursuits which involve mental strain, and those undertaken chiefly to secure recreation from strain . . . . *Page* 55

§ 3. A second distinction: parallel with the psychological division of the intellectual and the active aspects of mind. Language we treat as an art not as a science *Page* 57

§ 4. The objects of Knowledge are distinguished as (*a*) those concerned with mankind; (*b*) those concerned with the natural world. Geography now belongs to one group, now to the other . . . . *Page* 60

§ 5. And these again lead to a further group of Sciences, which are *abstracted from* the Humanities and the Natural Sciences . . . . *Page* 62

§ 6. The arts are classified on a similar plan. The conventional arts stand in close relation to the Humanities; the natural arts to the Natural Sciences. All arts, however, give expression to the thoughts and feelings of man, and hence should, whenever possible, be correlated with the Humanities. Arts may be pursued in a mechanical or a liberal spirit: Art is creative and demands opportunity for self-expression . . . . *Page* 63

§ 7. These pursuits can now be arranged in six groups. A comparison of these will help us to an opinion as to "Educational Values."

Group I. The Humanities.—The Holy Bible as a branch of study in schools. History and Literature from the standpoint here adopted are almost inseparable. But Literature is not to be limited to heroic poetry. Subjective appreciation of Nature is also a part of the Humanistic field . . . . *Page* 67

§ 8. *Group II. The Natural Sciences.*—A child's interests do not begin, or end, in Chemistry and Physics *Page* 71

§ 9. *Group III. Abstract Sciences.*—Mathematics during the years of school being the most important. Mathematics is also an Art, but it must be grouped according to the source from whence it is derived. *Grammar*, for the same reason, is transferred to our next Group, although it is an abstract science *Page* 72

§ 10. *Group IV. The Conventional Arts of Symbolic Expression.*—The real nature of Art needs to be emphasised. Art, at least in the school, cannot be pursued merely for Art's sake. Music and the Drama are only Fine Arts, but they are not on this account to be excluded . . . . *Page* 76

§ 11. *Group V. The Natural Arts* (of Representation or Expression through natural material).—Art, to the young child, must be realistic. The Manual or Productive Arts find their place in the next Group *Page* 79

§ 12. *Group VI. Physical Recreations.*—These are also "means" in the hands of the teacher. They may be divided, *according to their leading features*, as follows:—(*a*) Simple Physical Activity; (*b*) Imitative Exercises (Play or Occupations); (*c*) Games and Contests; (*d*) Gymnastics, Rowing, etc.; (*e*) Rhythmical Exercises; (*f*) Exercises incidental to the teaching in other Groups . . . . *Page* 81

§ 13. Summary and Scheme . . . . *Page* 89

CHAPTER IV

DIFFERENTIATION

§ 1. A problem in Administration which needs, for the logical completeness of the survey, to be dealt with here also . . . . *Page* 92

§ 2. Division of school life into periods, according to changes indicated by Growth (II, § 4)

Five "stages" decided upon:—

{Early Childhood, ages 4 to 6 on the average
{Later Childhood, ,, 7 to 9 ,,
{Early Boyhood (Girlhood), ages 10 to 12 on the average
{Later Boyhood (Girlhood), ,, 13 to 15 ,,
Adolescence, from 15

Features of these periods . . . . *Page* 93

§ 3. Hence we derive the three permanent types of educational "Institution"—Primary, Secondary, University . . . . Page 100
§ 4. The Claim of Inheritance (II, § 3) guides us in further defining these institutions, especially with regard to the function of the Secondary School in its earlier years Page 102
§ 5. The demand for Equipment (II, § 2) provides another principle for Differentiation. Every pupil's life, before he becomes a full citizen, divides into three stages. The work of Primary and of Secondary Schools in relation to these stages . . . . Page 104
§ 6. Hence we adopt a working scheme for types of schools, which has also some countenance from the policy at this moment (1902) of English educational authorities Page 112

CHAPTER V

A FEW MAXIMS

§ 1. These rules are the dictates of common-sense, distinguished from principles which should be based on scientific contemplation.
The rule of *Restraint* . . . . Page 116
§ 2. The rule of *Sufficiency*—illustrated by the "intensive" plan: example of a time-table in two forms Page 118
§ 3. The rule of *Sequence*—illustration from Geometry, Object Lessons, etc. . . . . Page 121
§ 4. The rule of *Continuity*—Class teaching should not be disturbed at short intervals . . . . Page 124

SECTION III

THE CURRICULUM FOR EACH PERIOD OF SCHOOL LIFE

CHAPTER VI

THE INFANT SCHOOL (OR KINDERGARTEN)

§ 1. Preliminary caution: we are not about to prescribe a code . . . . Page 126
§ 2. *Early Childhood.*—All is not of Froebel that is labelled Kindergarten. (Note on reformers who go beyond Froebel.) Main principles of the *Fröbelsche Pädagogik* under seven heads . . . . Page 129

§ 3. All the seven being applications of the General Principles of Chapter III . . . . *Page* 132

§ 4. *The Curriculum of the Kindergarten.*—A week in January: example of a Concentration Plan. Example of a succession of stories (with correlated pursuits) for a whole season. Fairy stories are a luxury—not wholesome as a regular diet: the opposite course followed by Professor Dewey in Chicago *Page* 133

§ 5. Hints on Kindergarten practice: order in disorder. A child will be perfectly quiet while listening to a well-told story; but when it is finished! Respect for the child's personality. The Time Table. Correlation must be natural: example of a forced attempt to create interest . . . . *Page* 139

§ 6. Results of Kindergarten life. The child is humanised by the influence of good congenial society. Results attained in the five Groups (following Chapter III). Other "results" are to be deprecated . . . *Page* 143

CHAPTER VII

LATER CHILDHOOD

§ 1. *Features of the Growing Child.*—He "gladly goes alone"—growth of mental power. Practical apprehension of the world about him. The inner life of fancy *Page* 147

§ 2. *Selection of Material.*—Antagonism between the realist and the humanist. Contrast between the Herbartians and the teaching of John Dewey. The use of Fairy Tales . . . . *Page* 153

§ 3. *The Humanities.*—Examples of "Classic" literature. Can Teutonic or Celtic Sagas be selected? *Page* 155

§ 4. *Nature Knowledge.*—The time for "Science" not yet arrived. His studies can be conducted in orderly fashion, but "stones" (or other "Objects") must not be given for bread! . . . . *Page* 159

§ 5. *Mathematics.*—The *nature* of Mathematics needs to be investigated by teachers. The counting of money not an end in itself. Drill in arithmetical operations is necessary. Progress must be slow. *Geometry.*—The ground to be covered is not extensive. *Page* 161

§ 6. *The Arts of Expression.*—Acquirement of interest in the symbols of speech. Steps in the study of words: should we begin with analysis? Writing must go with reading. A sound phonetic system necessary. Miss Dale's plan of a different colour for each group of symbols. At a later stage these devices are unnecessary. Reading carried on apart from lessons.
Grammar.—First attempt at reasoning as to the function of words.
Music . . . . *Page* 165

§ 7. *The Arts of Representation.*—Artists must not take pride in forcing children to premature facility *Page* 171

§ 8. *Physical Recreations.*—Special importance of Imitative exercises correlated with the Humanities. Games may be delayed to a later stage. The value of Gymnastic exercises and rhythmical exercises *Page* 171

§ 9. *The Time Table.*—No need to overcrowd it with "subjects."
Summary of achievement during the three years *Page* 174

CHAPTER VIII

THE BEGINNINGS OF BOYHOOD AND GIRLHOOD

§ 1. Compromise between the demand for correlation and the demands of the "specialist . . . . *Page* 178

§ 2. *History.*—Must begin (1) with the locality, (2) with early times. Example of treatment for a school in England, selecting always what is worthiest in each epoch.
Literature.—The miscellaneous "Reader" should be banished. Books should be read for a "direct" purpose. The habit of using books of reference. Literary power not acquired by "tasting" the great writers in scraps.
Human Geography.—A correlated plan for the three years. But certain portions of the globe are omitted!
Scripture Lessons.—The Jena plan of correlation with periods of national history is difficult. Another scheme proposed.
Occasional selection of material for reasons not connected with the general scheme of study. Illustrations . . . . *Page* 179

§ 3. *Natural Science.*—The foundation of scientific habits. The historic order of the sciences: does it coincide with the psychologic order of study? Hints as to scheme for the three years . . . . *Page* 186

§ 4. *The Abstract Sciences: The Study of Number.*—Quantitative work from science lessons, associated with decimals and then with fractions.

Algebra can be commenced during this period, and is not out of place in the Primary School, although its introduction need not be forced.

Geometry, however, should be commenced in all types of school; it should begin with what is called *Concrete* Geometry, growing out of the scheme of Science teaching, and treated largely as exercise in Drawing.

Grammar—treated in the next § . . . . . . *Page* 188

§ 5. *The Arts of Expression.*—(1) *The Native Tongue.* Composition. Reading, not only reading aloud, but silent reading. Use of a Form Library. (2) *Foreign Tongues.* When should a foreign language be first introduced? The issue confused by conflicting demands of Equipment and of Tradition. Rapid revolution in opinion at the present time, giving opportunity for treating the problem on sound principles of Education. Foreign languages must be allied with the Humanities: hence, the native tongue should come first, and a modern language precede Latin or Greek. Modern Languages in the nursery. The Bi-lingual problem. The first years of study in a foreign language should follow the intensive rule. Selection of subject-matter. The "forms" of the foreign language—also to be studied in the foreign speech. (3) *Grammar.* Elementary notions of analysis and parsing.

Music.—Part-singing may be taken up. The selection of songs: what themes are most appropriate? *Page* 191

§ 6. *The Arts of Representation.*—A proper sequence of study has not been thought out. The organised systems are to be distrusted . . . . *Page* 201

§ 7. *Physical Recreations.*—Carpentry, Cookery, Laundry work are appropriate so far as the pupil's age is concerned; but what is the *motive* for their adoption? The boy is now ready to begin school games *Page* 203

§ 8. *The Time Table.*—Suggested division for six periods in each school day . . . . *Page* 205

§ 9. *Summary.*—After this period, Differentiation plays its part . . . . *Page* 206

CHAPTER IX

THE LAST YEARS OF THE PRIMARY SCHOOL

§ 1. At present there are few schools which contain classes consisting solely of this type. And in villages there never can be.

Characteristic of the pupils:—looking keenly towards the future; most of them are to join the ranks of unskilled labour. This factor must govern the situation . . . . *Page* 208

§ 2. *The Humanities.*—The study of the Nineteenth Century: in its literary, its economic, and political aspects *Page* 210

§ 3. *Natural Science.*—The part played by the great sciences—Chemistry, Physics, Biology—during the late Queen's reign. Human Physiology is especially important in relation to Hygiene . . . . *Page* 211

§ 4. *Mathematics.*—Problems started in Science teaching, together with mercantile arithmetic . . . *Page* 212

§ 5. A second language only to be studied by pupils who are bi-lingual in the home already; *i.e.*, in most of the minor countries of Europe. In England the case is different.

Music, see Chapters VII and VIII . . . . . *Page* 213

§ 6. There are special reasons for making much of the Arts of Representation and of Production . . . *Page* 215

§ 7. *Physical Recreations.*—The striking success of the Industrial School curriculum in contrast to the ordinary Elementary School curriculum at this period. A new age will discover a new value in manual toil, both in town and country *Page* 215

CHAPTER X

THE HIGHER ELEMENTARY (HIGHER PRIMARY) SCHOOL

§ 1. This type scarcely exists in Great Britain, although the name for it has been selected by Government. It must be regarded (1) as a *sequel* to what has been achieved in Chapter VIII; (2) as containing many pupils of ability; (3) as leading directly, during its last two years, to certain callings in life, divided roughly into (*a*) mechanical, (*b*) commercial. Distribution of hours during the four years . . . *Page* 222

§ 2. The Course for the first two years—*vide* Chapter XI. *Page* 225

§ 3. The Scientific "side" (for the last two years), specially planned to suit the needs of higher artisan employments, *e.g.*, building trades and the lower grades of engineering . . . . *Page* 226

§ 4. The Commercial "side" (last two years), similarly planned to meet the needs of office employment and of the lower grades of Civil Service employments *Page* 227

CHAPTER XI

THE CURRICULUM OF THE SECONDARY SCHOOL

§ 1. Our endeavour to "dovetail" the curricula of different types of schools must not go so far as to injure the efficiency of each type of school as an end in itself *Page* 231

§ 2. Slow mental growth of the typical pupil of a Secondary School. Conditions relating to "choice" of a career . . . . *Page* 232

§ 3. Scheme for the Four Years' Course of general education. *The Humanities.*—The programme for the first year or two will probably overlap that described in Chapter VIII. Suggestions for a course in Ancient History, and in Modern History. Example of a syllabus, correlated with a syllabus in Literature. History cannot yet be treated as a "scientific" study, either in its constitutional or social aspects *Page* 234

§ 4. *Natural Science.*—But abstract studies in Natural Sciences *can* now be undertaken with success. Elementary Physics to be succeeded by Elementary Chemistry . . . . *Page* 239

§ 5. *Mathematics.*—The reforms in the teaching of Elementary Mathematics now in progress . . . . *Page* 241

§ 6. *The Arts of Expression.*—Is good taste in literature cultivated by Secondary Schools? Reading aloud, and recitation or elocution, need far more attention, if this art is to receive adequate treatment.

Foreign Languages.—The Secondary School should commence (in Great Britain) with French, and after two or three years introduce Latin (with *all* pupils for the first year of Latin). Why Latin should be preferred to German at this point. The value of "a little" Latin, *if taught in connection with the Humanities.* A fourth language (Greek, German, or Spanish) only to be reached after the Four Years' Course.

The friends of Classical Instruction need not fear the outcome of this postponement of Latin and Greek. Grammar, in connection with the Arts of Language *Page* 243

§ 7. *The Arts of Representation.*—The "Fine Arts" have a claim on Secondary Schools for boys as well as for girls, and they should not be dropped until the end of the Four Years' Course. For reforms in teaching have now advanced sufficiently to enable us to make a good choice of material . . . . *Page* 249

§ 8. *Physical Exercises and Recreation.*—School Games now become of paramount importance—especially to the older pupils; and for them also Military Drill and Exercises are suitable . . . . *Page* 250

§ 9. *The Time Table for this Four Years' Course* . *Page* 252

§ 10. *The Later Years of the Secondary School.*—Two styles of Secondary School, called by the Government, First Grade and Second Grade. Analogous titles in Germany. Illustrations of curricula affording choice of studies for various careers. Three arguments in defence of this organisation. But it involves great expenditure for staff and apparatus, and large schools become almost a necessity for complete success *Page* 253

SECTION IV

METHOD

CHAPTER XII

FIRST TYPE OF LESSONS—THE ACQUIREMENT OF KNOWLEDGE

§ 1. Objections raised to the study of Method—the teacher's desire for "freedom." But we are not proposing mechanical rules: we are in search of principles of Method. And a certain restriction of "freedom" is inevitable in any corporate work . . . . *Page* 261

§ 2. Distinction between General Method and Special Method. The basis for General Method—in the nature of the Child. Summary of doctrines based upon Child-Nature: these involve (A) An *Introduction* to each new portion of study or employment; (B) *Correlation* of this new study with other interests or pursuits; (C) *Application* of new ideas or powers; (D) Orderly *Sequence* through the "Sections" of a new study . . . . *Page* 265

§ 3. These general canons of Method arise out of our earlier discussion of Child-Nature in Chapter II, and they are worked out in more detail below. For farther analysis we must look more closely into the varying nature of school pursuits, following the conclusions of Chapter III.

Groups I, II, and III are mainly branches of knowledge, and are subject to laws of apperception. Groups IV, V, VI are mainly branches of skill, and are subject to laws of imitation and habit. All the Groups involve a subjective, emotional element, which also claims proper consideration in Method. For practical purposes we adopt two main *types* of lesson—those concerned mainly (1) with the acquirement of knowledge; (2) with the acquirement of skill: but they are only types . . . . *Page* 269

§ 4. We admit the possibility of working out further "types," as pedagogic research advances . *Page* 274

§ 5. *First Type.*—Lessons on the Herbart-Ziller model, which seek mainly the acquirement of knowledge.

But what *is* knowledge? Illustration: knowledge of a seaside place. Concluding with some elementary facts: (1) knowledge begins with sense-perception; (2) but immediately tends to combine with other knowledge; (3) and to take higher forms or shapes; (4) but knowledge of the same object differs in various subjects; (5) knowledge dies unless it is put to use *Page* 275

§ 6. A further illustration to distinguish full vivifying knowledge from knowledge falsely so called *Page* 279

§ 7. Notes of a series of History Lessons to exhibit these features of knowledge in the daily routine of a class: English History for beginners, from 1258 to 1272. Divided into four main portions, or Steps . *Page* 282

§ 8. Notes of a series of lessons in Elementary Mathematics; Geometry of Euclid I. 27 to 32; also following a psychological sequence of four Steps: Part I. covering the ground of Euclid I. 27, 28; Part II. taking 29 to 32 (and other riders if necessary) . . *Page* 295

§ 9. A dialogue with an unbeliever . . . . . . *Page* 303

CHAPTER XIII

THE ACQUIREMENT OF KNOWLEDGE (*continued*)—STEPS FOLLOWED IN THE PROCESS

§ 1. Theory underlying the examples given in Chapter XII. *The Distribution of a Course of Study into "Sections."* Features of a good Section . . . . *Page* 309

§ 2. *The First Step.*—Intention of the *Preparation.* Its Content—it is an analysis. It includes the *Aim* of the Section. Its Form—by question and answer. Hindrances to success . . . . *Page* 313

§ 3. *The Second Step: The Presentation of New Knowledge.*—The Intention. Features of a good Presentation. Varieties in the form of the Presentation, by narration, or experiment, or development.

The Presentation in relation to the Arts.

Hindrances to a good Presentation . . . . . *Page* 318

§ 4. *The Third Step: Abstraction.*—Leading to "choicer, finer products," sometimes anticipated by a bright pupil in the Second Step. (*a*) Limitations to use of this Step: with young children—at the outset of a course of study—in some branches more than in others: precocious reflection to be discouraged.

(*b*) *Content of the Third Step.*—Comparison, followed by Formulation, expressed in appropriate language. Sometimes completed with a summary extending over several previous Sections . . . . *Page* 324

§ 5. *The Final Step: Application.*—It is always necessary. And in several directions—(1) in the First Step of the next Section; (2) or to miscellaneous problems, especially such as are suggested by the pupils themselves; (3) or to topics taken from other branches; (4) and to the practical needs of daily life: these take us beyond school lessons, especially in the Humanities.

Note on technical terms for the Steps in Method *Page* 330

CHAPTER XIV

SECOND TYPE OF LESSONS—THE ACQUIREMENT OF SKILL

§ 1. Our aid in these chapters to be found rather from artists than from psychologists or teachers . . . *Page* 334

§ 2. *Imitation* the central factor in the process: leading to the formation of habits. Habit, while a good servant, is a bad master. The relation between volition and cognition: the intellect cannot be shut out. The demand for good *Content*, as well as correct *Form* . . . . *Page* 335

§ 3. An example, from Modern Language Teaching: a series of Sections for First Lessons in German to English-speaking pupils . . . . *Page* 339

CHAPTER XV

THE ACQUIREMENT OF SKILL (*continued*)—STEPS ADAPTED TO THE SECOND TYPE OF LESSONS

§ 1. Distribution into Sections. Each should lead the pupil to some new exercise in technique. But sometimes a teacher may only propose new Content (such a Section is however, logically, only a mode of practising earlier habits).

The "Systems" for Sloyd, drawing, pianoforte teaching, languages, etc., usually neglect Content for the sake of Form . . . . *Page* 354

§ 2. *The First Step: Preparation.*—An intellectual process, having much in common with the Preparation of Chapter XIII, but the Aim is different. (*a*) Fundamentally, it should spring out of some correlated "Content," but (*b*) it will involve also the proposal of some definite act. The *intelligence* must be won from the first to take interest in technique (except with young children) . . . . *Page* 357

§ 3. *The Second Step: Presentation*, (*a*) involving Contemplation (passive, receptive, aided by much "experience," gained in contemplation apart from school).

(*b*) Involving also Copying or Imitation: active, productive. The copy must be (i.) faithful, but (ii.) in all the finer arts, differentiation must not be suppressed.

(*c*) The model need not always be present to sense, and the parts of the Presentation need usually to be articulated.

(*d*) Complex arrangement of Lesson Notes in which Performance of an Art has to be closely associated with the Instruction . . . . *Page* 360

§ 4. *The Third Step: Apprehension of Rules.*—A generalising process, but the aim is not towards higher forms of thought, for the chief aim in the Section is to acquire Skill: true of the Arts of Foreign Language as of all other fine arts. The modes of studying the rules vary . . . . *Page* 367

§ 5. *A Final Step: Practice.*—Imitation once again, but in a different guise. The habit must be formed by infinite repetition of exercises. But opportunity for *free* practice must be afforded.

(*a*) This Step is not merely an "application" of the Third Step.

(*b*) Vital difference between rigid practice in imitation of the model, and *free* practice. The teaching of John Ruskin.

(*c*) Can young people perfectly acquire a new habit in a short time? It is best to go on to a new Section before weariness sets in: illustration from Handwriting.

(*d*) Free Practice leads to *Invention*—but Invention lies outside the sphere of school teaching.

Genius in art cannot be prophesied before adolescence (in spite of exhibitions by child-pianists). Nevertheless, constant opportunity for freedom in treatment should be afforded all through the school period *Page* 369

§ 6. Suggestions for further study: references to books *Page* 376

§ 7. On the Construction of Notes of Lessons: (1) by beginners; (2) by teachers of experience . *Page* 378

SECTION V

CHAPTER XVI

A FEW HINTS ON CLASS MANAGEMENT

§ 1. The general idea—to make teaching so effective that Management as a separate problem is forgotten *Page* 385

§ 2. *Before the Lesson begins.*—With a new class foresight should be exercised. Note on interruptions by visitors . . . . *Page* 386

§ 3. *First Lessons with a New Class.*—Personal knowledge of difficult pupils. The teacher's own personality sometimes an element of disturbance! A special type of teacher criticised. The dangers involved in "suggestion" as a mode of control . . . *Page* 388

§ 4. *Treatment of Offenders.*—They must not be handled so as to interfere with the rest of the class. "What thou doest, do quickly," is a good rule in punishment *Page* 391

§ 5. *Use of the Blackboard.*—The teacher's eye. Length of Periods for Lessons . . . . *Page* 392

§ 6. *Correction of Written Work.*—A Frenchman's experience. The uselessness of too much correction: illustration from Spelling . . . . *Page* 393

§ 7. *Taking Notes* . . . . *Page* 396

§ 8. *Questions and Answers.*—The Socratic Method not a good method for school. Once more, let the teacher suppress himself. A note on a German proposal *Page* 397

§ 9. *The Care of Backward Pupils.*—Edward Thring. (*a*) Large schools can distribute into two types of Forms. (*b*) In small schools a class may often be subdivided for certain branches; but if not, much can be done to "keep the class together,"—wherein, indeed, a great principle is involved, for each class should be a corporate body . . . . *Page* 399

§ 10. *Length of Periods for Lessons* . . . . . . *Page* 402

§ 11. *Home Lessons.*—Necessary, after early childhood. A misfortune that they are so little employed in the upper Standards of Elementary Schools.

Gross abuse of Home Lessons; rules are necessary to restrict this. The amount to be strictly measured, and adapted to the average pupil, with supplementary consideration for those who can do more. Additional voluntary exercises should always be available. The home should take an interest—but not *too* great an interest! The work must be *exacted.* The parent is partly answerable for failure. Home Lessons should be skilfully worked in with the whole Course of Study. They should not make too great a call upon the mental powers . . . . *Page* 403

§ 12. Management with a new class composed of pupils entered from schools of various types . . . . . . *Page* 410

APPENDIX

SPECIMEN COURSES OF STUDY AND NOTES OF LESSONS REFERRED TO IN THE TEXT . . . . *Page* 413

SAMPLE OF A CURRICULUM TABLE . . . . *Page* 433

Ed
193

PRINCIPLES OF CLASS TEACHING

SECTION I

CHAPTER I

INTRODUCTION

The whole work of education may be summed up in the concept :— Morality.—HERBART (*Felkin's Science of Education*, p. 57).

Was ist gewonnen, wenn es gelingt, die Kultur des Erdbodens zu erhöhen, den Geist des Handels und der Industrie überall zu beleben, den Gesetzen und Grundverfassungen der Länder die höchste Vollkommenheit zu geben, wenn die Menschen nicht würdig sind, eine so schöne Erde zu bewohnen, und nicht fähig, auf ihr einen Himmel zu finden?—REIN, *Pädagogik im Grundriss*, p. 8.

Image the whole, then execute the parts ;
Fancy the fabric
Quite, ere you build ; ere steel strike fire from quartz,
Ere mortar dab brick !
BROWNING, *The Grammarian's Funeral*.

§ 1.—THE topic of this book is Teaching—the ends, means, methods to be employed when a group of children are placed in charge of an adult during specified hours of the day. It is obvious that a systematised exposition of principles relating to this topic must assume, in the reader's mind, a set of ideas relating to other departments in the science of Education. For example, who brings together this group of children? What motives set this machinery of teaching a-going? Such questions must already have received an answer. Let us, then, by way of an introductory chapter, survey this wider field; we shall thus hope to bring our subject into its right perspective; thus we shall see the end from the beginning.

Let us accept the following as a description of the meaning of Education :—

The adult portion of the community, organised in the forms of the Family, the State,[1] the Church, and various miscellaneous associations, desires to promote the welfare of the rising generation. This it seeks to do by the employment of certain deliberate modes of influence, as an addition to the inevitable influences of culture and environment that operate upon *all* human life. These specific influences are called Education, and those who exercise them (whether professionally or incidentally) are called Teachers, and those who are subjected to this educational process are called Scholars.

The full bearing of this definition will appear as we proceed with our study; it will suffice for the moment to emphasise the following :—

(*a*) The fount or *source* of Education is not the teacher. However much he may pride himself on the name of "master," he has not the supreme control at the outset; he is the servant of the community. This submission does not absolve him from professional responsibility; nor does it limit the range of his legitimate authority, which should indeed be absolute, within the walls of his classroom. But it places him, in the last extremity, at the bidding of those social organisations which have called him to their aid.

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[1] Including both Central and Local authorities.

(*b*) The *subject* of Education is the rising generation. The young, the immature, are subjected to this process by the adult community.[1] It is necessary, whatever the dictionaries may say, to place this restriction upon the scope of the term "Education." When you have entered upon the active duties of life as a citizen, your Education, in the proper sense of the term, is ended. It is very true that the culture of the mind may continue, but nothing is gained by confusing the terms "culture," or "development," or "environment," with the term Education as employed in Acts of Parliament and in common speech. To say that "a sojourn in Italy is a liberal education" is a statement which can be understood, but it had better be expressed otherwise. Travel in Italy may be undertaken expressly for the purpose of Education by those who are being educated; but it is more commonly an affair of culture.

And here it may be convenient to dismiss one branch of Education which cannot engage our attention further in this book, but which, for the first time in the world's history, is beginning to move the heart and conscience of society. The adult community is taking upon itself not only the burden of children, but also of those classes of the community who, although no longer children in age, remain children in morals or in intellect, and who therefore require the processes of Education long after the normal period. The great army of the criminal, the abnormal, the defective, the insane, stand on the same footing in respect of Education; they are children, and they demand from the community the same pity, the same training and teaching, the same control and restraint, which we afford to our little ones. Blessed are the weak, for they too shall "inherit the earth"!

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[1] Plato: *Lysis*: "The reason is, Socrates, that I am not of age."

A general exposition of Class Teaching, such as this book attempts, has no concern with these pupils, beyond urging the necessity for providing *separate* teaching for children who are abnormal or defective. The presence in the classroom of even a single pupil of weak intellect, or of grave physical defect, is sufficient to hinder the whole work.

(*c*) *The agency of a teacher* is necessary to the process of Education. This is a specific undertaking, designed by social corporations; they entrust the task which we call "Education" to individuals who are either set apart entirely for this duty, or who take it up incidentally. Thus a mother sometimes acts as private tutor to her children; or a clergyman teaches in a Sunday School. The professional teacher is, indeed, only found in societies which have progressed to a high standard of civilisation, and are able to recognise the value of deliberate systematised efforts to promote the welfare of the rising generation; and, whatever he may achieve, he is scarcely likely in our day to ignore the aid of those who are not teachers by profession, but who have an equally deep interest in the child's welfare.

§ 2.—From the definition of the last paragraph (p. 2), we now trace three main problems which, if treated in order, cover the entire field embraced in the study of Education. Firstly, what do we include in "the welfare of the rising generation"? We answer this question by investigating the Aim or End of Education. Secondly, what are the functions of the corporate bodies (State, Church, Family, etc.) who are united in seeking to achieve this aim? What are their mutual relations, to one another, and to the teachers whom they engage upon the task? Here we treat of the Control of Education. The final problem is the Conduct or Practice of Education—the business of the teacher when he and his pupils are brought face to face.

We will proceed as rapidly as is possible to this third branch of our science, pausing only for a moment to clear the way by a summary review of the other two.

Let it be noted that the order here chosen is logical and necessary:—Aim, Administration, Practice. We cannot determine what sort of teachers we want, we cannot settle the mutual claims of Church, Family, State, etc., to control Education, until we have realised the end to be kept in view. Nor can the teacher set about his task until he knows what are its limits and what are his relations to those whose agent he is. In the present year of Grace (1901) it is hardly necessary to plead, either with teachers or with laymen, for support in this order of procedure. For, even in England, our public men have come to recognise the momentous issues, moral and social, involved in the upbringing of the young.

On the other hand, these three branches must always keep each other in sight: the active mind of the student of Education must be prepared to revise conclusions drawn from one field in the light of his investigations into another. The teacher is not prepared to let the philosopher propound the Aims of Education or the politician determine the principles of Control apart from some insight into the possibilities of practice. A system of Education which is in touch with the realities of life, which plays its part in the behaviour of those who profess it, must be a united whole.[1] Hence the obligation, which the present writer admits, to direct the reader's attention to the whole field of inquiry before claiming attention for the department taken up in this volume.

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[1] Compare p. 35 in *The* (New York) *Educational Review* (June, 1901), on "The Situation as regards the Course of Study," by John Dewey—reprinted as *The Educational Situation* (Chicago: The University Press).

After this introductory chapter only occasional references are made to topics relating to the Control of Education. A few such references are, however, inserted with the design of impressing the close relationship between the different parts of educational science, and the illustrations are taken from topics of interest at the present moment, since these are more likely to attract the reader's attention. (See, *e.g.*, p. 374, Chap. XV. below.)

§ 3. *The Aim of Education.*—That eminently practical person "the man in the street" is irritated by inquiries as to ends and aims; common-sense, he says, is a sufficient guide in such matters. Dr. Johnson expressed the sentiment of such minds when he told Mr. Thrale that "Education is as well known, and has long been as well known, as ever it can be." But at that very moment Pestalozzi was working out new ideals for the teacher—ideals which are to be reckoned among the great forces of the new century; for they form a part of all the strong moral tendencies which have struggled for supremacy in the Europe of the last hundred years.

Hence, while the man in the street is still content to say that his child goes to school to learn lessons,[1] to acquire knowledge, or to train the mind, without bothering his brain about further issues, the sounder instinct of earnest-thinking people, whether parents, statesmen, or teachers, has sought firmer ground. As they contemplate a group of children assembled in school, and forecast their future, taking up the burden of the new century, they desire for them the one supreme gift in which all others are comprehended—the endowment of character. Parents, now as ever, "covet the best gifts" for their young, and they know that a virtuous life is the only right issue of a scheme of Education.

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[1] Compare Bain, *Education as a Science*, Chap. I. Bain also endeavours to keep Education apart from Ethics—and fails. (See Preface, p. xiii, above.)

Speculations between the schools of Ethics are here beside the mark. We are not required to create a new Ethic which shall suit the special ends of Education, or to make our choice between Hegel or Herbart, Spencer or Kant. The teacher is one with his kind: he springs from "the people," and takes from them, *at their best*, the hopes and fears, the ideals and longings, which they express on behalf of their offspring. His Ethics must submit to be the "Ethics of the Period," as the present writer has elsewhere termed it.[1]

We must be content here to put our argument into a few brief sentences.

(*a*) Education is a social science, related like other social sciences (Politics, Economics) to Ethics and Philosophy, but compelled to *assume* the conclusions of philosophy, and to confine itself to its own proper field—the welfare of the child, the pupil.

(*b*) This limitation, however, does not warrant the teacher in disregarding the moral issue: he is bound to seek for an ideal, as much as the economist or the politician. He is not describing a series of phenomena: he is an actor in the human tragedy. (Compare Preface, above.)

(*c*) He takes his ideal, therefore, not from the text-book of Speculative Philosophy, but from the open book of human intercourse. The "man in the street" who, in vulgar mood, scorns to speak of the ideal, will, in a more serious and intimate mood, reveal his heart. He has hopes—and fears—for his children. Hence the teacher, springing out of "the people," working under their direction, takes his ideal from them—at their best moments. The language of the market-place, which speaks of

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[1] *The School* (Home University Library), Chap. IV.

> Will, conscience, honour, honesty,
> An' things o' thet description,[1]

may serve him better than the speech of Plato; though, as a scholar and a thinker (apart from his daily task), he may be glad to find himself in the company of the greatest thinkers and teachers, as well as with his humbler friends of the street corner.

(*d*) He has an additional reason for declining to express his ideal in the language of philosophy, because his function is limited to the care of the young. *They* do not need a new Ethic; it suffices for them if they are inspired with a real devotion to the moral law of their parents. When they are grown, they may perhaps soar to heights beyond their teacher's ken. But he must abide in the valley!

(*e*) The popular or traditional aspect of the teacher's function, which limits him to instruction, to lessons and books, was never sound, because it disregarded the eminently important factors of personal influence and of the corporate character of school life. It is now less acceptable than formerly, because of so many new branches of teaching, such as Drawing and Manual Training, which are not concerned with the acquirement of knowledge at all. (Compare Chapters III, XIV, XV, etc.) It may be admitted as valid only in so far as it limits the mode by which the teacher chiefly seeks to achieve his ideal. His ideal is the same as that of the parent, but the *means* he employs are different.

(*f*) Both parent and teacher aim at the same goal —the development of a complete, individual character; moral not only in respect of intellectual power,[1] which was so rightly emphasised by Arnold and by Herbart, but of sentiment and of action. The unity of the child's life, body and mind, the diversity of the child's activities, compels the teacher to embrace within the scope of his ideal every side of human nature, so far as the limits of the immature child-nature extend.

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[1] Lowell, *Biglow Papers*, No. VI.

Hence we may formulate the Aim of Education—to employ the powers and influence of teachers upon pupils, and upon the school society, so as to promote the growth of complete character,—physical powers, mental attainments, happy disposition, force of will; a character fitted to fulfil the duties of adult life so far as the native capacity and environment of each individual will permit. The *extent* to which the teacher can achieve this aim is circumscribed not only by his own imperfections, but by the limits of time, opportunity, and responsibility which are imposed upon him by the authorities who control Education.

§ 4. *The Control of Education.*—Responsibility for the welfare of the young is laid in the first instance upon various groups (or corporations)[2] of the community which claim a voice in the control of Education. Their claim is based upon some recognised function which they fulfil for the common good. The most primitive of these corporations is also the most primitive form of political and social organisation—it is the Family. The latest to be summoned to this service is the State, with its various functions of local and national authority. Besides these we have the Churches, with their lofty claims to guard the spiritual interests of the child, and many miscellaneous associations which, in one age or another, have found some motive for taking up the cause of Education.

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[1] Compare the phrase of Arnold of Rugby, *moral thoughtfulness*, and of Herbart, *Erziehender Unterricht*.

[2] For the use of this term compare Seeley, *Lectures on Political Science*, Chap. I.

It is no part of our present purpose to discuss the claims, often found in grave conflict, which the Family, the Church, the State make to control the business of the teacher: the fact that they do so control him, alike in a private school, a 'Public School,' or an Elementary School is undeniable. Fortunately, for the prospects of Education in Great Britain the discussion of these claims has become a matter of the first political importance; all authorities are now beginning to realise that their interest and their duty are bound up with the welfare of the rising generation. Many teachers have a dread of the whole movement, which, since 1870, has steadily increased its hold upon the affairs of the school; but they should surely recognise the absolute dependence of the profession upon these corporations. By dependence is not meant the meaner dependence for bread-and-butter, but for efficiency, and for success in the highest sense of the word. It is only by setting our house in order in the external matters of administration and organisation that we can hope to fulfil our own duty within our own field.

Now these corporations perform their functions through the agency of Educational Authorities, some of which cover a large area, national or provincial, and *administer* Education, while others operate in a smaller field and are entrusted with the *organisation* of Education in localities. The Board of Education is an example of an administrative authority; a School Board or a Governing Body is an example of an organising authority. The actual *management* of schools and of other educational institutions is left (or should be left) in the hands of teachers.

So much is necessary by way of definition of terms, so that we may have a clear course when we come to discuss in a later chapter the conditions governing the drafting of a school curriculum. We have admitted to the full, the subordination of the teacher to the authorities created for the control of Education: let us, on the other hand, claim for him the privileges of a profession, and draw a sharp line between the province of the lay authority and that of the teacher. The creation of a body of recognised teachers, equipped by professional studies and by experience for the discharge of their office, involves the recognition of this distinction; and however much it may be, here and there, ignored in the "chaos" of these times, it is not likely that the powers that be, whether parent, Governing Body, or County Council, will seek to degrade the office of those who serve the nation's children.

We are here concerned with only one department of this service—the business of Class Teaching. This business is obviously of an expert nature, with the details of which a lay "authority" can have no concern; and if such an authority claims to usurp the teacher's function by prescribing text books, by rigid limitation as to time and manner and method, it should be resisted. On the other hand, the teacher must not assert that the children are his own property; the "authority" has a claim to consider both the aim of Class Teaching and its results. Those who call the teacher into being have always claimed the right of prescribing to him in general terms the limits within which he shall work. It is for them to exercise a wise discretion in the expression of these terms: but it is for the teacher to exercise an equal prudence, not by rebelling against authority, but by seeking to guide public opinion, showing that the advice of an expert differs from the impatience of a rebel, showing also a willingness to yield, except in matters of vital moral principle.

§ 5. *The Practice of Education.*—Let us first make an analysis of the topics embraced in the Practice[1] or Conduct of Education. Readers familiar with the later Herbartian literature will observe many points of similarity, and some points of divergence, between this and the Herbartian analysis.[2]

a. The distinction between the single pupil, considered apart, and a society of children, in a class or school, taken together, is obvious enough. Every branch of practice needs to take account of the numbers of pupils who are in the teacher's hands at one time. Private tuition must differ in many particulars from class teaching; the teacher has the advantage of exercising a greater individual influence, but the pupil is deprived of the stimulus afforded by the presence of comrades. We shall not delay to discuss the best possible size for a class under instruction. There are as many opinions on the matter as there are figures; we shall take it for granted that thirty is a fair average for the size of classes as they actually exist in our schools at the present day. In many schools, some wealthy, some poor, the numbers allotted to one teacher are larger; in many others the numbers fall far below thirty. But we may, I think, take it as a common opinion that a teacher of experience will usually be willing to handle a class of thirty pupils, if the thirty are fairly equal in attainments; he would be unwilling to go up to forty, or to fall below twenty.[1]

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[1] It will be observed that we do not use the term 'Practice' in contrast to 'Theory.' Very little is gained by making a sharp distinction between the two. Theory treats of the same subject-matter as Practice, but in a more general or philosophic manner. A general text-book, such as this, is necessarily 'theoretical,' but there is no reason why it should be unpractical. In Medicine the distinction is falling into disuse, and it will be abandoned in the study of Education as soon as teachers in general come to treat the study as a serious pursuit. Theory without Practice is wind; Practice without Theory is quackery. Reasonable beings, whether teachers or tinkers, have principles which control their practice, and these principles, when expressed and formulated, constitute their theory.

[2] Compare especially Rein's *Grundriss der Pädagogik* (translated as "Outlines of Pedagogics," by Van Liew, Swan Sonnenschein and Co., 1893).

The chapters, therefore, in this book which deal with Lesson Notes will assume as a rule that the members of a class lie within these limits. In cases, such as many Primary Schools present, where more than forty children are in the charge of a single teacher, the methods here presented must be modified, and the best results cannot be fairly demanded. No pupil can, for example, be trained properly in the arts of speech if he has only an opportunity of expressing himself orally during three minutes of each day, apart from recitation in chorus. Such hindrances to sound method cannot be removed by the teacher; the authorities who employ him are responsible, and it is gratifying to observe how, year by year, in all countries, the evils of understaffing are being acknowledged.

Where the classes are so large as to prevent the possibility of such attention, special devices have to be employed which run counter to many of the precepts contained in the following chapters. These devices can only be learned in the classroom, and at best they are a poor substitute for sound class-teaching. His Majesty's Inspector of Elementary Schools knows very well that when a teacher is placed in sole charge of eighty children he cannot teach in any real sense of the term, and the Inspector has to deal generously with the results of such a situation.

However large a class may be, the methods of handling it must always be based on our acquaintance with the individual child. The *unit in Education* is not the school, or the class, but *the single pupil.* However fruitful it may be to discuss "the psychology of the crowd," whether in school or on the streets, the value of the study depends upon our previous acquaintance with single individuals. Doubtless a pupil will behave very differently when alone and when one of a group of thirty, but he is himself after all; and the methods by which his single mind is guided are the methods by which the thirty minds must be guided. Hence the necessity for studying the child singly or apart; hence the circumstance that most of the great masters whom we follow, Locke, Pestalozzi, Froebel, Arnold, Herbart, gained their early experience when in charge of a few pupils only.

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[1] For advanced pupils in a Sixth Form, many teachers would place the maximum lower.

b. The distinction between the mental life and the physical life. Since the aim of Education includes the complete welfare of the young, the teacher cannot venture to omit the care of his pupil's body from his scheme of operation. True the parent is responsible (except in boarding-schools) for sustenance, sleep, and, in part, for recreation; but the body does not become extinct during the hours of school. Hence in all schools, the question of Hygiene claims attention in the Practice of Education; Hygiene not only in respect of heat and ventilation, but in respect of conditions relating to the length of school periods, of home-lessons and the like, which have a direct bearing upon class-teaching. We shall be content in these chapters to assume the ordinary conclusions on these topics which are now accepted by students of School Hygiene, making incidental reference here and there as occasion suggests.

c. The distinction between the *mediate* influence and the *immediate* influence of the teacher. We cannot do better than adopt Herbart's distinction of the teacher's task under the three heads of: Teaching (*Unterricht*), Government (*Regierung*), Guidance

(*Zucht*).[1] He points out that, although the ostensible business of teacher and of pupil is concerned with some branch of study (some *medium* through which the teacher seeks to attain the aim of Education), all the while the teacher is exercising a personal *immediate* influence over his pupil, he is both governing him by authority and guiding him by the suggestion of personal influence. Government and Guidance, in contrast to Teaching, may be described as Training (*Führung*),[2] and the process of Training, wisely or unwisely conducted, is always proceeding during lesson-hours, although the teacher cannot be perpetually conscious thereof.[3] But in all good schools the influence of the teacher is not wholly confined to the hours of lessons, and the effect of Training is observed more openly in those occasions of intercourse which are presented apart from teaching. A school society imbued with an active corporate life achieves the moral ends of Education with a completeness far beyond what is possible in a place where teacher and scholars always part on the stroke of the clock.

And here our first distinction (see § 5 (*a*) above) between the single pupil and the class or school comes once more into play:—The social aspect of school life is a leading factor in the Educational problem. A new pupil coming into a large society is influenced quite as much by his schoolfellows as by the personality of his teacher. The tone, the quality of the school atmosphere, may be a vague element, difficult to analyse, but it is an immensely powerful agent in the creation of character, and in the last resort its virtue springs from the personal influence and power of the school staff.

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[1] Herbart's *Letters and Lectures on Education*, translated by Felkin (Swan Sonnenschein and Co., 1898). The technical terms adopted by the translator are often unfortunate.

[2] Rein, as above. "Train up a child in the way he should go," said the wise man. Teaching in Old Testament days was not recognised as a function separate from training.

[3] The present writer has discussed the Theory of Guidance more fully in "The Personal Influence of the Teacher."—*The Paidologist*, February, 1905.

The distinctions now made enable us to set out in order the fields of activity which are embraced within the teacher's province; only the last of these concerns us in this book. A complete treatise on The Practice of Education, planned as a sequel to the study of The Aim and The Control of Education, would involve the following:—

I. The Physical Training of the scholar and the Hygienic Conditions of school life.

II. The Training (including Physical Exercises) of scholars, including their Government and Guidance both as individuals and in the corporate life of class and school.

III. The Teaching of scholars, *i.e.*, the employment of various occupations and branches of instruction as a specific means of attaining the Aim of Education. This last is the proper topic before us; and it has been made clear that while the Teaching of scholars is an inquiry which needs to be pursued apart from other functions of the teacher, the connection between the three departments cannot be ignored. While therefore we shall keep within the limits prescribed by the title-page,[1] we shall find it necessary to refer incidentally to conditions relating to the physical life and to the Training of the scholar where these affect closely the problems of Teaching.

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[1] It will be observed that we define the term *Teaching* to cover both Curriculum (Material) and Method.

A SCHEME SHOWING THE RELATION OF TOPICS EMBRACED IN THE PRACTICE (OR CONDUCT) OF EDUCATION.

THE CHILD, OR SCHOLAR.

THE UNIT
(the single scholar).

Related Sciences:
Physiology.
Psychology
Ethics

- Oversight of the Physical life.
- Oversight of the Mental life.

THE SOCIETY
(scholars in numbers at school).

- School Hygiene.
- The School Society.

MEANS OF EDUCATION.

Direct:—employing—
(1) Authority in Government.
(2) Personal influence in Guidance.

Indirect:—Employing various branches of Teaching,* as *means* towards the end of Education.

- Material of the Curriculum.*
- Method, considered—(1) as General Method,* offering *types* of Lessons; (2) as Special Method, dealing with the idiosyncrasies of each branch.

Numbers involve organisation, and the School Society must therefore be appropriately organised:—(1) For Government and Guidance; (2) for Teaching.*

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* Only the topics marked with the asterisk are covered in the succeeding chapters.

SECTION II

THE CURRICULUM IN GENERAL

CHAPTER II

MOTIVES IN THE SELECTION OF MATERIAL

The object of Education should be the production, not of *boys* of such and such a kind as they display their qualities in their schools, but of *men* of such and such a kind, as they display their qualities in the world.—COTTERILL, *Suggested Reforms in Public Schools*, p. 26.

A little child shall lead them.—*Isaiah.*

They were the strangest pair at such a time that ever firelight shone upon. Mr. Dombey, so erect and solemn, gazing at the blaze; his little image, with an old, old face, peering into the red perspective with the fixed and rapt attention of a sage. . . . Mr. Dombey, stiff with starch and arrogance; the little image by inheritance, and in unconscious imitation. The two so very much alike, and yet so monstrously contrasted.—DICKENS, *Dombey and Son*, chap. viii.

Dass die Seele den Gegenstand des Wissens lieb gewinne, seinen Wert, seine Beziehungen, seinen Zusammenhang verstehe; dass Fertigkeit und Kunst in das Wissen hineinkommen . . . . ist gewiss die Hauptsache.—HERBART.

§ 1.—LET us look back for a moment at the conclusions of our last chapter. We notice the child first of all as a self-developing creature, influenced greatly by environment and circumstance, quite apart from Education; then we observe his physical nature, his body, which is indeed affected by the operations of the teacher, but which in a great measure is cared for apart from the school. When he becomes a school pupil we are struck at once by the paramount influence of the society of his teachers and his companions, both in Government and in Guidance, controlling and suggesting at every turn:—an influence which we term "immediate" because it displays the direct action of mind upon mind.

But now we are to introduce a new element into the child's life. As a member of the school society he is indeed subject to direct personal influence, but this is not the ostensible business of the place: he does not become a pupil, a member of a school, simply for the sake of social virtues.

He requires pursuits, occupations, during these hours of school, and the provision and control of these occupations is Teaching; the Teacher derives his professional name from his responsibility therein.

But children, healthy children, are very active beings: why should they not be left to themselves to find occupation? The child is ready to be interested in almost anything that comes to hand! Why not let him follow his own bent, and exercise his choice? To some the question will appear ridiculous; others, adopting the standpoint of Rousseau, admit the question needs an answer. And the cynics, who see little advantage from our professional labours, who observe how every generation provides a new system of Education, are ready enough to tell us that we had better leave young children at least, as in the Middle Ages, to the care of mothers and nurses. The custom has undoubtedly grown up, in our modern Europe as in ancient Greece, of taking the child by the hand and forcing him into certain grooves of activity. We do not permit him, like the bee, to gather honey where he will: he must submit to Teaching. The psychologist is right in warning us against the dangers of crippling self-activity, of destroying originality, of imposing the dead hand on the fresh young soul:—still there are greater dangers if we leave the child alone. These dangers are obvious enough: (1) The child has no *power of selection.* He will drink poison as readily as water, when he is thirsty; he will imitate everything that appeals to eyes and ears. (2) He has no *method* in the pursuit of knowledge. He is eager, open-mouthed, willing, but gropes in the dark. Our function then is a twofold one: we have to select *Material* which shall occupy our pupil, and we have to supervise the *Method* by which he will acquire the best material. Under these two heads we may group all the problems which lie before us in the following chapters. Let us embark on them, however, with some diffidence, admitting that our judgment may not always be infallible in respect of either of these inquiries. Assurance is an excellent virtue in a schoolmaster, and the present writer has no intention of renouncing his share of this virtue. Nevertheless, let us not determine the child's destiny in too absolute a fashion. For fear of possible misadventure let us allow a little room for our pupil's individual activity. We will not for a moment admit the possibility of "nine and sixty ways of constructing"[1] a system of Education, but we may generously concede the child's right to some idiosyncrasies, which may lead him to appropriate good Material by remarkable Methods of his own. And,

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[1] Kipling, *The Seven Seas.*

6113

in spite of all the study which we may spend upon his curious ways, we are not yet ready to reduce him entirely to system and rule. So, above all, let us not try to over-educate. Let our boys and girls feel, when they have left the school behind, that we have not exhausted or bored them by the pressure of our routine.

§ 2.—The first problem, that of the selection of Material, may be stated thus :—The child is sent to us from its home for a number of hours per day year by year, and we have to select certain occupations for him which we deem most adapted to achieve the educational ideal. Now the range from which these occupations may be chosen is immense. If a catalogue were made of the pursuits in which English school children are at this moment engaged, the list would fill a Blue-book! One boy is reading Hebrew, and another in a school close at hand is learning to make shoes: both are being taught in obedience to a high educational ideal! We shall find our way through the jostling crowd of "subjects"[1] which claim our pupils' attention by getting behind them all, and inquiring what are the *motives* which have led men to thrust this or that occupation upon the child. An analysis of these motives will lead us to principles, which can guide the teacher in selection or rejection.

If we are desirous of attempting to classify the many motives which inspire adult society in finding occupation for the rising generation we can readily discern two opposing currents; indeed, the conflict between them has already been noticed, and it will accompany us to the end. On the one hand, we witness the intense desire of the adult to create the

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[1] It will be observed that we substitute the term "branch" for "subject" in this volume.

Ca 13 C.113

child after his own image. "My son, hear the instruction of thy father, and forsake not the law of thy mother" (Proverbs i. 8). The grown man knows life; he has tasted the tree of knowledge; peril, life, fate, joy are known to him: they are hidden from his little ones. Watch the clergyman, the tradesman, the politician, as he passionately seeks to draw the rising generation to an interest in his own absorbing pursuit. It was so with John Colet when the Renaissance and the Reformation set modern schooling on foot, and it was so the other day in the House of Commons:—

> "No provision is made in the Educational Code for a new subject of instruction for children proposed by Mr. Jesse Collings, who is the chairman of the Committee at present inquiring into the merits of petroleum for lighting purposes. He asked Mr. Norman, one of the witnesses, whether it would not be possible to devote an hour or two a week to the teaching of children in elementary schools how to trim, light, and extinguish lamps; and the answer was to the effect that such an innovation would be of great advantage to the community."—*Daily newspaper report*, 1896.[1]

Diametrically opposed to these motives, we find most powerful and pathetic pleas from the friends of children; from all those who, either by instinct or experience or scientific training, have come to recognise *the rights of the child.* Let the child alone, they cry; let him be absorbed as a child in the natural occupations of childhood. Let those who teach him first "become as little children," before they venture to lead either themselves or their pupils into the kingdom.[2]

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[1] Since the above was written the Board of Education have actually issued a circular to encourage teachers to impart instruction in this subject. But the relation of cause and effect is not so simple as this circular would suggest.

[2] It is among children only, and as children only, that you will find medicine for your healing, and true wisdom for your teaching. . . . There is death in the thoughts of men; the

Between these two opposing principles we may place all the varying motives which have established the curricula of schools, and which have guided the policy of teachers, from Solomon in Jerusalem down to Froebel in Blankenburg. Let us hear the fathers before the children. What are the deeper motives which ripe experience can offer?

The first, earliest, most cautious, and practical is that which pictures childhood as a time of *Equipment.* The years spent in the nursery and the school are nothing in themselves—they are merely of worth as affording a chance for equipment. "A lad cannot begin too early to understand the necessity for earning an honest livelihood." Just so, "In the sweat of thy face shalt thou eat bread." Learn, my boy, subjects that are "practical," and you may be sure that your time is not wasted. Are you to be a citizen? then learn Civics. Are you to enter an office? then learn Shorthand. This is the plea of *Necessity*, and it continues to govern the practice of all parents and teachers. The choice of necessary subjects varies, indeed, from age to age: one age will choose commercial arithmetic and another archery; but both are governed by the same motive—selecting, namely, those pursuits which the age appreciates as *necessary* for the child's existence thereafter.

Society is not content, however, to stand still. We are ambitious for our children; they are to benefit by our misfortunes; they must be equipped, not

world is one wide riddle to them, darker and darker as it draws to a close; but the secret of it is known to the child, and the Lord of heaven and earth is most to be thanked in that "He has hidden these things from the wise and prudent, and has revealed them unto babes."—Ruskin, *Crown of Wild Olive*, Lecture I. John Ruskin knew nothing of child-study, but these pages are the most eloquent plea for this "movement" which exists in the English or in any other language.

only for bare necessity, but for *Progress*. *Our* infant days were passed idly and unprofitably enough; our children, at least, shall not suffer the same misfortune! We only learned French; they shall add German. We were taught some scraps of Science; they shall learn all the Sciences, and the Arts as well! How nobly Luther inspired his countrymen to establish the *Volksschule* on this plea of progress. We have been bred, he cried, in darkness and sin, because we could not read God's Word. Let us save our children: let them progress in the new light of the Bible, an open Book for all who learn their letters!

Such is the law of Equipment,[1] for Necessity, for Progress: we cannot escape from it. It involves the existence, the civilisation of the human race; and when raised upon the high moral plane as an element in the training of character it cannot be ignored. But what follies has it not led in its train! The progress of each century, of each civilisation, requires that the weapons of the past shall be cast aside, and the teachers' tools must follow suit; they are found to be out-of-date even before they have been fairly tried! It was only yesterday that we found Chemistry to be necessary for English boys, and already it appears that Book-keeping is more important! if, indeed, the sorely-pressed infant ought not to acquire both. It was hard enough for a scholar to learn his Latin and Greek; but how can he progress to-day to the pinnacles of fame without his French and German? Probably, in the course of centuries, the child will develop greater mental powers, and be better able to meet the demands of Progress. But at present he cannot keep pace with the vigour of the nineteenth century: he complains of "pressure," which is unpleasant; even of over-pressure, which is surely, as he would say, past a joke.

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[1] This demand for Equipment is regarded as the chief argument in modern democracies for differentiating the Primary from the Secondary School. (See Chapter IV, p. 104, below.) It also is the chief motive which guides public authorities in regulating the branches imposed on schools by public examinations. But we cannot pursue this important topic, otherwise than incidentally, in this volume (see Chapter XI).

§ 3.—But another powerful motive is all the time at work, which checks to some extent this relentless law of progress. We are not all "Progressives"; in spite of the universal desire for Equipment, there abides a steadying force of conservatism, which, in the sphere of Education, pleads for the child as the *Inheritor of Tradition.* This motive, too, finds its root in ancient use, and can be traced from the dawn of the teacher's art. The instruction of the young among all great nations has been a *transmission*—of literature, of story, of song, of pious exercises from the days of old; kept in memory by many visible signs and memorials, which sometimes, indeed, were expressly designed for the purpose. "What mean ye by these stones?" said the young warriors of Israel or Judah as they passed by Gilgal on their way to Mahanaim; and the greybeards answered them in the words of Joshua, and handed on the famous story to a new generation. This, we hold, is the conservative principle: the desire of the adult to reproduce his name, his type, his race in those that follow. He will not *have* radical alterations: he resists progress: he will gladly revert, whenever he can get the chance, to an old habit, to a threadbare garment—if worn by his ancestors!

From this fundamental fact in human nature we derive the whole idea of a Liberal Curriculum as opposed to the bread-and-butter studies of Technical or Professional Instruction. Life is more than meat; there are still a few who prize the great books, the Bible, Shakespeare, Homer: the great buildings, Temples, Pyramids, Cathedrals, beyond the products of the market-place and the mill. Mankind has found here a strength, an inspiration, a consolation; the child shall also drink at this same fountain!

Surely the child cannot go wrong if he sets out upon life's voyage in such a spirit, following the Roman ideal of "pius Æneas," the Hebrew ideal of the wise Solomon, hearing the instruction of a father.

> "Let knowledge grow from more to more,
> But more of reverence in us dwell."

To deny the force, the eternal value, of this principle, is to deny our kinship with mankind; and to deny its worth as a guide to the teacher is to send the child back to be suckled by the wolf. And yet, with what folly has this principle been perverted by the learned; as if the culture of the past, the worship of ancestors, were the whole duty of the child! As if age in itself gave a title to veneration. As if a language were to be learned, a book to be studied, a building to be reproduced, solely because our forefathers wasted their time and their talents upon it. The testimony of the present generation is eloquent enough as a protest against the follies of pedagogues in the past. We have reverted with a great bound to the ruder doctrine of Necessity. Latin can only now be preserved in the Grammar Schools because it is still useful (?) in Medicine and in Law: the favourite pursuits of the young are Chemistry, Carpentery, or Cookery. Literature is notoriously the most unsatisfactory branch of study in the average English school. And when the leaders in this revolt against tradition still discover some survival of human sympathy and reverence, they threaten to replace our Homer and our Shakespeare with *The Origin of Species* and *The Life of Stephenson*, the railway man. These be thy gods, O Israel! Happily the balance is likely soon to be restored, and the lesson will surely not be lost upon our successors. The teacher has well-nigh forfeited his hold upon the curriculum of the school because public opinion has rejected the pedantry of narrow scholarship imposed on children in days gone by. He will regain the respect of parents, and of the State, by recognising that this doctrine of Inheritance has its limits, and can only be accepted as one factor in the selection of Material.

§ 4.—We must now reverse our point of view, and attempt to examine the problem with the eyes of the child. We say "attempt" advisedly, for the task is difficult. In spite of all that has been said and written in recent years about child study and child psychology, it still remains true that the immense majority both of teachers and laymen who take an interest in Education rely solely upon the principles we have discussed above; and they do not consciously admit the new standpoint, in this part of the theory of Education. Ever since the days of Ratke and Comenius this plea, so far as *Method* is concerned, has been allowed, for teachers admitted the need of preparing the school fare a little so as to suit the childish palate; but the selection of branches of Teaching was another matter, and one in which the child could have no voice.

Locke and Rousseau are credited with having started these revolutionary doctrines, but they only came to the full light of day with Froebel; and they would scarcely have gained so powerful a hold on men's minds even now, if they had not been reinforced by the methods of the Natural Sciences. Students trained on scientific method have analysed the life of that strange creature called "child," and have shown that his being differs enormously from that of the still more complex being, the adult man.

These doctrines, then, are modern—thought out, and still being thought out, by minds of the modern type; nevertheless, the spirit of them may be traced to an older source, to those primal founts of sympathy and affection which parent feels for child; we may go back to the Gospel narrative for the first frank expression of this new sentiment. Jesus was the first preacher of the rights of women; and then as now, where the woman stepped forward, she led the child by the hand. It was a scene of this kind, at Bethany beyond Jordan, which gave occasion to the supreme and final utterance, "Whosoever shall not receive the kingdom of God as a little child, he shall not enter therein."

These words, and the spirit which they expressed, abolished at one stroke the exclusiveness of that law of Tradition which we have discussed above. You claim, then, that your child shall grow up into *your* image and follow *your* ways? No, indeed! it is you that must become as a little child! The child has his own "rights"; he already takes his place as a recognised member of the spiritual society; and the qualities which fit him for this rank are those which you also must acquire! Such is the contribution of Christian Ethics to the relation between the adult and the child: it has needed eighteen centuries before the application thereof has reached down to the time-table of the school, bidding us modify the pursuits of the child in accordance with his childish nature.[1]

> An ancient sage, once travelling in a distant land, beheld a glorious mountain, radiant in beauty and splendour. Up its steep sides were toiling many earnest men and women; the path was rugged, but the reward was sure, for, although mist and cloud often veiled the glory of the summit, they knew their goal. Looking further down into the valley, the sage beheld other toilers, hard beset: they were children, helpless little ones, struggling blindly in their own fashion to reach out towards the prize, but for ever halting and missing the track. And as they stumbled and cried out for help, their fathers from the heights above earnestly admonished them: "Come quickly, children, up to us, for we are near the summit; we stand on sure ground, and you must follow our footsteps."
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> And the traveller, as he heard these words, was moved with pity, and ran quickly down, and with strong reproach pleaded for the helpless little ones. "Come down," he cried, "and become as little children, if indeed you do desire to raise them with you to share yonder glory. Your task will be harder, you will reach the end more slowly, but those wonders are not for you alone. You must come down to their level; you must set your pace to their stride; you must take them by the hand: they *cannot* tread in your steps, or see with your eyes; and they cannot and will not heed your admonitions." Some heeded this counsel, and, returning, guided the steps of the little wanderers; others, eager and ambitious, still strove onwards, ever calling "Excelsior" to the feeble folk behind, and were soon lost to sight among the clouds.

Such is the general doctrine: let us observe the modes in which it has been applied in regard to the selection of Material. The first and crudest observation about the child is that he *grows*: he is not a fixed form, but a developing form, and, since babes prefer milk to meat, they probably show similar preferences in the choice of mental diet. It scarcely requires a psychologist to make such a discovery, and the world had not to wait for Locke and Froebel to announce it: all thinking nations, (beginning with the Chinese) who have planned schemes of instruction, divide the life of the pupils into periods, and have made a rough attempt to suit the fare to the powers of digestion. But until within recent years no serious attempt has been made to record the mental growth of a human being; and it will take another century before the investigations and experiments of psychologists bear fruit in reforms of the curriculum. We shall seek presently to utilise the little that we do know on this subject when we come to plan a scheme of studies: meanwhile it is interesting to notice that the most distinguished advocates of this principle, the Herbartians, have based their schemes not upon scientific psychology, but upon interesting analogies. Their delightful theory of the Culture-Epochs is based upon the observation that the human race appears to present stages of growth analogous to those of the individual, as he progresses from infancy to age. Hence the Herbartian, influenced largely at the same time by the doctrine of Tradition, selects a series of pursuits in History, Literature, Science, and Fine Art such as engaged the attention of our ancestors at epochs analogous to those through which the child passes at various periods of its growth. It is certainly remarkable with what success this theory is pursued at Jena, where it may be studied any day in actual practice on the lives of small groups of school children.

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[1] In later chapters we have employed the term "Apperception" (see p. 269) in the theory of Method, but we might equally well have employed it here also, as is done by Lange, whose monograph, *Apperzeption* (translated by C. de Garmo and others: Isbister and Co.), is a standard work on Education as conceived from the standpoint of the child. See also § 6, p. 38, below.

The Herbartians, in fact, are engaged upon a huge experiment, similar to experiments undertaken in our laboratories, but requiring many years before a reliable inductive proof can be secured. The present writer holds that in many respects this bold theory is working out rightly, and that investigations and experiments conducted on other lines will lead to conclusions not remote from those which are preached at Jena. Meanwhile it must be strictly borne in mind that the Culture-Epoch Theory is not a statement of scientific fact, and that it can only be followed safely by those who study its bearings side by side with their own observations of the growth of children. Here, as elsewhere, science will not permit of short-cuts to truth: the follies of those who set a child of eight to reason about Grammar and Euclid will not be overcome by appeals to the childhood of the race, but by careful and extended observation of the realities of children's mental life, guided by a competent acquaintance with psychology.

§ 5. *The Principle of Balance, or of Harmonious Development.*—The child grows, or should grow, in breadth as well as in length, but it was a long time before any allowance was made for this need in the selection of Material.

The recognition of this doctrine constituted in fact the first formal attempt in modern times to construct a theory of teaching. The eighteenth century, the "Age of Reason," which produced a formal psychology of the faculties, added to that a pedagogy of the faculties, and, while the psychology has disappeared, the pedagogy is still with us; for teachers seem content to use doctrines which mental science has discarded. We have grown up with the trick of talking about "training the reason" and "cultivating the memory," and have scarcely troubled to inquire whether these phrases convey a real truth in fact. "It is humiliating to reflect that the defunct doctrine of faculties, having first retarded the progress of psychology itself, should now be revived to darken Knowledge under the guise of psychology applied to Education."[1] These words were written twelve years ago, and since then the attack has been taken up by all who have read Herbart, and at last the Training Colleges have begun to drop the cant which has disfigured so many thousands of Notes of Lessons. These errors are also being killed by ridicule, for the little work called "Herbartian Psychology," hailing from Aberdeen,[2] is full of delightful humour, and compensates the student for the dull and pointless essays of an earlier Aberdeen philosopher.[3]

It is necessary to come to close quarters with these heresies, for they still abound among us. The Faculty-Theory, then, is false, because it presupposes a false constitution of the mental life. Mental *processes* can be observed, but nothing can be traced to warrant the assumption of a special power or faculty which acts as memory, or reason, or imagination. Hence we must not select a branch of study because it is adapted to train such faculty. Millions of children have been set to learn spelling lists, because, among other grounds, this delightful employment will "train the memory." Now, the most that can be said by a faculty-psychologist is that by this exercise the child will gain a faculty for *acquiring similar lists of words* hereafter, but he will gain no general faculty for recollecting other matters.[1]

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[1] Professor Ward, in *The Journal of Education*, Nov. 1890. Readers of German should study a brief, but thorough, discussion on Faculty-Training by Ackermann, *Die Formale Bildung*. Compare also Titchener, *The New Psychology*, p. 294 (Macmillan).

[2] Adams, *The Herbartian Psychology* (Isbister, 1897).

[3] Bain, *Education as a Science* (International Scientific Series, 1870). This work has perhaps done more than any other writing to retard the study of Education in Great Britain. The eminent services rendered by the writer in his own field (of Psychology and Philosophy) rendered the situation all the more hopeless for Pedagogy. "If this," it was said, "is the best which a great man can produce on the subject of Education, why advocate the study further?" And yet Herbart (*a teacher as well as a psychologist*) had published his best works on Pedagogy thirty years before Bain wrote his articles on the Science of Education.

The theory, as we have seen, took its rise in the *Aufklärungs-periode*, the Age of Reason, when the intellect absorbed the chief attention of psychologists, and grammar the chief interest of teachers. But the psychology of Pope and Addison should not suffice for a teacher who has read Wordsworth and Browning. And these heretics ignore the element of *Growth*, which we have discussed above. They think it possible to discuss effectively the training of faculty as if the mental powers were of a fixed shape and form, to be treated alike in all stages of human life.[2] They limit their theory of the Curriculum to a dreary comparison of mental effects, selecting Arithmetic because it contains, let us say, 70 per cent. of Training in Reasoning; or Literature, because it balances the Arithmetic with 40 per cent. of Constructive Imagination and 20 per cent. of the Faculty of Retention. Then Sloyd is added because it exhibits a large deposit of Accuracy and Attention. A still more serious indictment is laid in the neglect of Ethics[2] and Sociology as factors in the selection of Material. Bain expressly excludes Ethics, because of the embarrassing issues raised if this intruder were admitted! Thus an artificial Pedagogy was put together, based exclusively on Psychology, curiously parallel to the artificial Economics produced at the same period,[1] in both the same ostrich-like attempt was made to plan a social science apart from Morals.

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[1] See Ackermann, as above.

[2] See Bain, *Science of Education*, Chap. 1.

It is not surprising, however, that these errors should still persist both among teachers, and in the mouths of many who are not teachers but who take an interest in education. The faculty-psychology has become largely a matter of popular vocabulary; its machinery is easy to handle; the patter of talk about imagination and reasoning is readily acquired, and it seems as easy to "apply" Psychology to Education as in former days it was thought possible to apply Physiology to Medicine. In both fields of professional labour the popular error may be left to cure itself, but students should seek safer ground for the practice of their calling. Psychology and Physiology are indispensable as preliminary studies, but systems of Medicine, or of Education, are in no sense "based" upon these; on the contrary, any sound system must stand upon data of its own, turning only to these and other sources of knowledge as it requires their aid.

While rejecting, however, these doctrines of "Applied Psychology" as a substitute for a system of Education, we cannot ignore the services which they rendered in their day as destructive of errors far more gross and misleading. Any one who takes up a volume of essays on Education written in the eighteenth century can realise how these doctrines of Harmonious Development, and of Faculty-Training were welcomed by all who had a genuine care for children. The dull dead pressure of Tradition, of the demand for Equipment, compelled cultured minds to turn to the best psychology that was available, and if to-day we can breathe the atmosphere of a more enlightened psychology, we cannot forget the debt that students of Education owe to those who first insisted upon the need for these studies.

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[1] Compare, e.g., Marshall, *Economics of Industry*, Toynbee, *The Industrial Revolution*, with Ricardo or Fawcett.

And while, as a constructive system, their doctrines are set aside, we adopt their standpoint as criticism of what had gone before, and we still need their aid in fighting on behalf of child-study. We plead, with them, that the child is a many-sided creature, and that his character can only develop to perfection if all his powers have a fair chance of development. While we decline the mental analysis of the Material to which they invite us, we accept the general law of Balance, and we add thereto the contribution made by Herbart, who points to the "many-sided interest"[1] displayed by the child, as a leading feature in his plan for a Curriculum.

We shall plead with them, that all branches pursued in the school should exercise the intelligence of the child, and we would add, should give scope also to his tastes and his activities ; it is still necessary to denounce, as they did, the narrow contempt for the child displayed by those who ignore his claim to mental activity, who would drill him down to the patience and stupidity of the ass and the ox.[2]

§ 6. *The Law of Interest.*—This reference to Herbart brings us to the threshold of those revolutionary ideas which, ever since the time of Pestalozzi, have been fermenting in the minds of educational reformers. We have already discussed the standpoint from which they all set it out :—the claim of the child to be considered as a human being with his own nature, his own capacities, his own ideals. The laws of Growth and of Balance which we have now discussed have, it is true, played a part in this revolution, but they took their rise in earlier movements, and have little in common with the deeper social current which has swayed the minds of all who have come under the influence of Pestalozzi. It must not be forgotten that Pestalozzi was the disciple of Rousseau, and that the author of *Emile* was the author also of *Contrat Social*; that *Leonhard und Gertrud* contains quite as much socialism as pedagogy; and that the reformers who laboured at Stanz, were guided not only by a new appreciation of child-nature, but inspired by lofty social ideals.

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[1] *Vielseitige Interesse* is his phrase. See the Herbartian literature everywhere.

[2] See p. 150 below. *The artificial production of stupidity in schools.*

While we turn to these reformers, first of all to inquire into their new conceptions of child-nature, they will compel us to go further: they will present to us new ethical ideals for the school, new hopes for the redemption of society by means of education. But for our present purpose we shall consider simply the terms in which appreciation of child-nature has found expression in the writings of these reformers. Pestalozzi himself is not a successful exponent of doctrine; it is more satisfactory to take up the writings of his followers, if we desire to gain a full impression of the revolution which he set on foot. We have a series of pedagogic terms which are the stock-in-trade of all these reformers, and by selecting the most important of these for definition, we shall most rapidly get at their point of view.

The term "Interest" as used by Herbart has been much misunderstood in England. The superficial hearer at once caught at the phrase: "I quite agree with Herbart: we *ought* to make our lessons interesting: the dullness of school has become intolerable: boys and girls will learn all the better if their teacher amuses them with anecdote, with a lively manner, or even with a joke or two." This kind of language has been constantly heard among English teachers any time for thirty years past, but it amounts to nothing more than a protest against dull stupidity, and if we seek to act upon the advice without caution, we are certain to dissipate the attention of our pupils, and to create in ourselves a discursive habit which is a grave injury to the success of class-teaching. Dullness is not a disease, but the symptom of a deeper evil; stimulants are not remedies; they only postpone the evil day. Such a stimulus to interest is a momentary, artificial affair, based upon the assumption that the occupations of school are tedious;[1] the pill must be swallowed, let us at least add a portion of jam! Sermons in themselves are a bore, but if accompanied by the beating of drums and the excitement of a crowd, they may be listened to!

Now Herbart's doctrine of Interest has no concern with all this: on the contrary, he would abolish the necessity for such pleas by striking at the source of the disease. When new knowledge is acquired by the pupil, feelings of pleasure are aroused, and the combined process or condition of mind we describe as a state of genuine Interest. Now Herbart declares that it is unnecessary to induce these feelings artificially, for the child possesses an abundance of Interests, *i.e.* of fields of interest, which he is ready to explore; and the feelings thereby excited will be *ad rem*, arising from the subject in hand, and not in any sense crossing or thwarting the goal at which both he and his teacher are aiming. Thereupon Herbart proceeds to classify these realms of interest into two groups, firstly those arising from *intercourse* with our kind (sympathetic, social, religious), secondly those conditioned by our experience of the world (empirical, speculative, æsthetic). These Interests often blend, and the strict scheme of six directions of Interest, as offered by Herbart, will not withstand all criticism.[1] But, we have here a principle, a law of capital importance for the selection of Material, as well as for the Method by which the Material is to be employed.

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[1] Compare essay by John Dewey, referred to on p. 5, above.

Other Herbartian writers have expounded the same general principle from the standpoint of *Apperception.*[2] When we speak of interest we are observing a subjective condition; the state of mind of the pupil who is interested, and the various fields of Interest described by Herbart, indicate permanent conditions under which all human beings may be expected more or less to exhibit interest. But Apperception embraces a wider range. It considers also the *objective* element in the process; the nature of the new ideas which are to be apperceived: and embraces under one term the whole procedure by which the mind advances to new fields of knowledge, including in this act, not only the purely intellectual processes of perception, memory, association, but the display of feeling and the effort of attention which share in producing the result.

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[1] Herbart ignores one distinction which may be suggested as having some practical value. Many interests are *native* and spontaneous; they may be anticipated without risk of disappointment in the normal child: others are *acquired*, with pleasure or with pain at the start, but when once started, either in the realm of sympathy, speculation or æsthetics, they will abide (by way of example, see Chap. VII., p. 165. Compare James's *Talks to Teachers*, p. 94 (Longmans, 1897).

[2] Lange, *Apperception* (Part I) (Isbister, 1893). See also James, *Talks to Teachers*, chap. x. (Longmans).

§ 7.—A third term taken from the vocabulary of educational reformers is *correlation*, and the ideas conveyed by the term, although especially advocated by Froebelians, may be readily brought into line with the doctrine of apperception. For a new piece of knowledge is not an isolated fragment: if it were it could not be assimilated at all. It can only take its place in the manifold structure of mental content, by right of kinship with what is already in possession.

The most superficial observer of present day reforms will recognise the numberless shapes in which this doctrine of correlation is exerting practical influence. Art helps the Classics, Geography helps History; Science and Mathematics have become mutually dependent. Formerly, every teacher sought to keep his own pursuits rigidly apart from those of his colleagues, and these walls of partition are often renewed: nevertheless they are as constantly attacked and overthrown.[1] It is *the same boy* who at 9 a.m. receives a Grammar Lesson and at 10 a.m. learns Arithmetic: all unconsciously he will seek for some mode of combination which will enable these alien elements to remain side by side in his consciousness: and, by way of warning, it should be added, he will freely throw off all such portions as refuse to find fellow-ship with the rest. The boy is one, let his tutors be a dozen: and he finally becomes, not what they have aimed to make him, but what he has assimilated into a complete and correlated whole.

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[1] The teacher of botany dissects the primrose for her pupils, and pays little heed to the fervent disciple of Wordsworth, who to-morrow desires these same pupils to meditate upon

"The primrose by the river's brim
A yellow primrose . . ."

But to the pupil, as to the primrose, botany and literature are merely names, and teachers, unless they care for children's ways, are merely pedants.

All these terms deal mainly with the intellectual life, or at least with processes which end in the acquirement of knowledge. For indeed Herbart's scheme of teaching looked to the acquirement of knowledge as the chief instrument by which the end of Education (*das Ziel der Erziehung*) was to be attained. His school pupils (for Herbart was a faithful practitioner of the teacher's art) gained worthy knowledge, vivified by emotion, based upon the varied interests of intercourse and experience. From thence sprang good desires and resolutions: the knowledge was applied in action and resulted in good-will the crown and seal of the whole operation. Nothing is absolutely good, said Kant, but the good-will; and Herbart applies the maxim to the child: he will create this one good thing, by directing the young mind upon the path of wisdom.[1]

But, if we read Froebel and look at the child with his eyes, we shall notice that Herbart had not expounded the whole doctrine of Pestalozzi. Herbart, after all, was a thinker and a philosopher, born and bred among scholars, in whom the intellectual life absorbed the best energy. Froebel failed as a thinker, but as an observer of young human life he surpassed even his master. Hence he seems to supply what Herbart omits—he speaks of *Self-Activity* as the one striking feature in children's life. They are not only receptive of knowledge, but incessantly active in expression: they exhibit, not merely interests, but *impulses*. They acquire

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[1] This is a summary of the Herbartian view (see Rein's Outline as above).

"character" not so much by reflection and by absorption of ideas, but by the repetition of right acts, leading partly to right habits, partly to new modes of expression and of thought. It is true that this activity is essentially connected with the intellectual life, and that, apart from that connection, no worthy character could evolve; but Froebel's plea is none the less valid, and will need to be repeated until the scholastic tradition, which fetters the teacher in his approach to the child, is utterly broken.

In the eyes of our ancestors, the child's impulses, no less than his interests, were things of naught. They should be restrained, coerced and conquered: he must learn, and the sooner the better, to submit his own will to the will of his elders.

Hence, just as the Herbartian sees a progressive course of development by which the fleeting objects of the child's *interests* may become the firm foundation of a character interested in all that is good and true, so we may examine his *impulses* and find also in these the seeds of the highest forms of human energy. The task has scarcely yet been attempted, and it is not one for which the present writer is fitted. It is easy to make a catalogue of the most prominent impulses to be observed in the young: it is not so easy to group these into philosophic form with the skill displayed by Herbart in treating of Interest.

The child is impelled towards food and drink, towards physical exercise, not only for the sake of existence, but from pure delight in the actions. It is hard to say whether the needs of the physical life or the *gratification* of the senses give the earliest impulses to action in an infant. But we soon observe impulses of another kind: the ego asserts itself in the desire of *acquisition*: and the child's conformity to the type is shown in his constant impulse to *imitation*.[1] In due time there succeed impulses of a more complex order. He seeks to break away from the type; he will be independent and display self-activity alien to the pattern set before his eyes. But he will also refuse to be content with himself: the egoism of acquisition will not suffice; he feels the keener, loftier joy of altruism, of surrender. All this is familiar to the Herbartian, but he considers it out of place in a discussion of the theory of Teaching, for Teaching is an affair concerned solely with the acquirement of Knowledge. The child's impulses, he will say, certainly merit direction and control, but these are the concern of Government and Guidance during the hours of leisure and recreation, when the child should be supplied with suitable occupations.[2] This cannot satisfy the Froebelian, and surely the Froebelian is right. The child is supremely an active being, and it must be the teacher's care, not only to provide suitable material for thought, but for action. Hence, in our scheme of a curriculum, we shall recognise the arts and occupations of the young, in Drawing, in Music, in Games, in Manual Training, as worthy to take rank side by side with those branches of knowledge which, since the Renaissance, have sought to usurp the whole field. In so doing we shall be simply reverting to the older and more generous method of the Greeks.[3]

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[1] The whole of this paragraph should be compared with Chaps. XIV and XV.

[2] *Beschäftigungen*, see Herbart's *Umriss der Pädag. Vorlesungen*, §§ 46 and 47, or Felkin's Translation, p. 101. Also Felkin's *Introduction to Herbart*, p. 157.

[3] Davidson, *Aristotle* (in Great Educators Series), p. 10 and elsewhere; also Mahaffy, *Old Greek Education*, pp. 52, 53.

Attention should here be called to the remarkable work undertaken by Professor Dewey (when head of the Department of Philosophy in the University of Chicago). After observing for some time the methods of F. W. Parker (a veteran disciple of Froebel and Pestalozzi) he determined to establish a small school of children for experiment and observation, as a branch of his work in training teachers. The outcome so far is *The Elementary School Record*,[1] an account of the daily theory and practice of this school. It offers a most able exposition of what may be achieved with small classes of young children by teachers who base their plans largely upon child-nature, under the guidance of a competent psychologist. See also Chapter VI. below on the Curriculum for young children.

Thus, under the various concepts of Interest, Apperception, Correlation, Self-Activity, we find many schools of reform working out their ideals, all deriving from the same source—the nature of the child, and all influencing, in a thousand ways, the current practice of the profession.

§ 8.—One final principle, part and parcel of the same body of thought, has been reserved to the last because it seems to crown the whole edifice, and to offer a solution of the discords created by doctrines which struggle with each other for the mastery. The reformers, who plead for the rights of the child, who achieve such marvellous results by studying the play of his interests and activities, are the first to admit that this plea alone will only lead to disaster. The joy of the young man in his youth ends, not in perfection of character, but in—vanity; and the happy butterfly child, ready for every interest and every occupation, will always remain a child unless some bridge can be found between the demands of adult society and the child's own claims. Many-sided interest is, in the child, a merit; in the man it means dissipation of his powers; overflowing activity in the child promises much; in the man it means wanton destruction. The grown man is limited—his experience and environment have established a circle of ideas and range of habits; and so it should be: he must surrender, must forgo much, must bow on every hand to limitations, if he is to achieve aught of worth.

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[1] See *The School and the Child* (London: Blackie & Son, 1906).

But we are no more content with those who urge the value of traditional culture as the chief element in education. He who knows or cares for nothing except the past is already grafted on a trunk that is decayed. "Let the dead bury their dead, but come thou and follow Me," is the final reply to those who seek to satisfy a new generation with the culture of the old.

Where shall the reconcilement be found? We turn back forthwith on our first steps: we acknowledged the final supremacy of the ethical ideal: before and after all our inquiries we admit the claim of character; of the supreme need of every human being to achieve the highest possible ideal; not an abstract ideal created by a thinker, but the ideal life for the child as he lives and moves in the world wherein he is born; subject to his parents, controlled by his society, impelled to labour by the need for bread, impelled to pity and benevolence by the needs of his fellows, impelled to reverence and to worship by the discovery of his own unworthiness and by the still greater discovery (if that be granted to him) of the grandeur and awfulness of the Supreme; invited to thought and reflection by the ever-widening range of knowledge; stirred to emotion by the constant environment of beauty; compelled to action by the ever-present sense of duty.

Such a being, created, we may well admit, after the image of the Eternal, might achieve much (nay, might achieve all!) if he were not limited by two relentless forces which declare him to be finite—Time and Space are his masters. They thwart him at every turn: they refuse to let his culture, or his progress, or his self-development, his interest or his impulses, expand: they bind him down to *one* set of tastes, to *one* calling, to *one* home. In short, they compel him towards a narrowing circle of pursuits which will make him at once happy in himself and useful to his fellows, just because they cut him off from the limitless range which lies beyond him.

Such, in popular language, seems to be the intention of Herbart in expounding the principle of *Concentration.* And he is surely supported by all the great teachers of mankind, as well as by the example of the greatest and best. "I am determined," said St. Paul, "to know nothing, but Jesus Christ and Him crucified." And he who said this was not a Galilean fisherman, but a scholar and a gentleman! He followed, indeed, the teaching of his Master, who bade His followers to sell all if they would win the pearl of great price.

After such an example, it is scarcely necessary to turn to men of lower aims. But if an English example be desired, Shakespeare will serve us: he wrote good plays and was content with that achievement. If we are, in this sense, narrow, we are at least taking our stand with all the great thinkers and workers of the human family.

We advocate the doctrine of Concentration, therefore, as a practical, an essential contribution to the theory of the curriculum. It strikes directly at the mischief created by those who plead for Harmonious Development, for Many-sided Interest, for spontaneous Self-Activity to the neglect of sterner limitations. It warns us of the peril of including every novel pursuit in our scheme of study. A young man who has "done" a little Latin and Greek, who can read French and German, who knows his Algebra and Euclid, has worked in the Laboratory and at the bench, who can paint and draw and sing, who, with all these accomplishments, is straightforward in speech and courteous in manner, may yet be useless for the common task of adult life. Nay, the very multitude of his interests may wreck his career. He will eat his dinners at the Bar, but will be tempted to journalism: then politics will attract his energies and he will contest an election, but he is too good a man to be lost in the House of Commons. He becomes, what indeed he has been trained to be, a gentleman-at-large, and he is the victim of an age which offers too many gifts to the rising generation.[1]

The principle of Concentration requires a centre round which the pursuits of school should be grouped. If the practical teacher is to avail himhimself of the principle, he has to discover some leading topic round which the various groups of pursuits may centre; and he need not despair of success even though he witnesses many excesses committed by other teachers in the search for a centre to the circle. Thus F. W. Parker, of Chicago, has tried to reduce the problem to geometrical form, and adorns the cover of his well-known work, *Talks on Pedagogics*, with a mystic circle whose centre is "The Child." True, the pupil is the subject of education about which our thoughts are centred, but "The Child" is not a subject of class-teaching.

And the issue of Parker's Theory is finally to make Geography the centre. Herbart, who was the first to put these principles on a scientific basis, rises to a far higher plane. With him, as with all teachers imbued with the spirit of the Renaissance, "the proper study of mankind is man." He would have us choose, for each period of study, some great theme of human story[1] and gather about this other branches of school instruction, geography, composition, history, &c. The old classical curriculum of exclusive Latin and Greek was often based, unconsciously, on the same principle; the pupil found the benefit of having his mind continually directed and re-directed for years together towards the same group of great men and great peoples.

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[1] Compare Zangwill, *Without Prejudice*, Chap. I.

The later Herbartians have gone far beyond their master, and have often exposed themselves to ridicule by fantastic modes of associating branches of study which have no real connection. Correlation and concentration are not to be ingeniously contrived by the teacher for his own ends: they can only be appreciated at the pupil's estimate. The latter will gladly welcome the bond which unites his various occupations, if *he* finds them to be naturally associated. And experience shews that these bonds can more readily be maintained with younger children than with older.[2] Most of the valuable experiments so far achieved in education have been with young children, and the results are decisive enough to enable us to speak confidently of the advantages of a scheme of study for them which centres round one theme. But there is no experience at present to warrant us in attempting to create any real association between all the various groups of school pursuits in the later years of school life. The utmost that we can do is to be prepared for such associations wherever they are presented—to put our Mathematics, for example, on a basis of Physical Science, our Arts of Expression into relationship with the Humanities, and our Arts of Representation into relationship both with the Humanities and with Nature Knowledge.

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[1] See the famous passage (Felkin's *Herbart's Science of Education*, p. 90) on his treatment of the Odyssey.

[2] And in the earlier sections of a new study rather than the later sections (see Chapters VIII to XI, *passim*).

By so doing we are not only answering to the natural desire of the rational mind, but we are preparing the way for a more complete scheme of Concentration in days to come. At present we can only find a satisfactory scheme, a true centre of our circle, in the case of young children, previous to the days when groups of study begin to be shaped apart in their minds. In course of time the scientific study of Education may lead our successors to further discovery along the same path:—we must only venture so far as the light of to-day will serve us.

But, however limited our skill and knowledge at present may be, we may take one feature of this principle of Concentration as a sure guide for all periods of school life. The child is from first to last a *human* being; his supreme interests are in his kind, in his race and its destiny, in his family, their joys and woes:—feeling, conduct, struggle, are terms which express the final and constant topics which occupy the human mind in childhood and youth, as well as in later years. Hence we remain at one with all great teachers in making the Humanities[1] the central branch of the curriculum. In one shape or another these will occupy our pupil's attention first of all: this is the Joseph to which all the brethren have to bow: Nature and Art will only serve our purpose so far as they find their source of interest in the motives and actions of mankind. If some artists and men of science demur to take this lowly attitude, we can meet their antagonism with a defence from men of science and from artists greater than they. For the greatest of these are also on the side of the humanists!

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[1] See § 7 in following chapter.

Professor Dewey, of Chicago, to whom reference has been made above, adds another argument in favour of concentration:—"There are many dissipating *centrifugal* influences tending to prevent the child from gaining a solid concentrated set of ideas during the short school day. Hence anything of a centripetal nature, strengthening the flow of the mental life towards a main centre, is to be welcomed."

Finally, it is worth while to quote at length an account of the Greek ideal of Concentration as described in felicitous language by the late Thomas Davidson.[1]

> "By making the works of the great poets of the Greek people the material of their education, the Athenians attained a variety of objects difficult of attainment by any other one means. The fact is, the ancient poetry of Greece, with its finished form, its heroic tales and characters, its accounts of peoples far removed in time and space, its manliness and pathos, its directness and simplicity, its piety and wisdom, its respect for law and order, combined with its admiration for personal initiative and worth, furnished in the hand of a careful and genial teacher a material for a complete education such as could not well be matched even in our own day. What instruction in ethics, politics, social life, and manly bearing could not find a fitting vehicle in the Homeric poems, not to speak of the geography, the literary criticism, and the history which the comprehension of them involved? What splendid ideals of manhood and woman-

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[1] *Aristotle and Ancient Educational Ideals* (Great Educator Series), pp. 72–75 (W. Heinemann, 1900).

hood did they hold up for his admiration and imitation! From Hesiod he would learn all that he needed to know about his gods and their relation to him and his people. From the elegiac poets he would derive a fund of political and social wisdom, and an impetus to patriotism, which would go far to make him a good man and a good citizen. From the iambic poets he would learn to express with energy his indignation at meanness, feebleness, wrong, and tyranny, while from the lyric poets he would learn the language suitable to every genial feeling and impulse of the human heart. And in reciting or singing all these, how would his power of terse, idiomatic expression, his sense of poetic beauty and his ear for rhythm and music be developed! With what a treasure of examples of every virtue and vice, and with what a fund of epigrammatic expression, would his memory be furnished! How familiar he would be with the character and ideals of his nation, how deeply in sympathy with them!

"And all this was possible even before the introduction of letters. With this event a new era in education begins. The boy now not only learns and declaims his Homer, and sings his Simonides or Sappho, he learns also to write down their verses from dictation, and so at once to read and write. This, indeed, was the way in which these (to us) fundamental arts were acquired. As soon as the boy could trace with his fingers in sand, or scratch with a stylus on wax, the forms of the letters, and combine them into syllables and words, he began to write poetry from his master's dictation. The writing lesson of to-day was the reading, recitation, or singing-lesson of to-morrow. Every boy made his own reading-book, and, if he found it illegible and stumbled in reading, he had only himself to blame. The Greeks, and especially the Athenians, laid the greatest stress upon reading well, reciting well, and singing well, and the youth who could not do all the three was looked upon as uncultured. Nor could he hide his want of culture, since young men were continually called upon, both at home and at more or less public gatherings, to perform their part in the social entertainment."

§ 9.—We have thus committed ourselves to a series of doctrines or principles with which we may challenge the right of any branch of study or pursuit to a place in our time table. And every pursuit for which we invite the attention of our class must answer the challenge, not only of one of these principles, *but of all.* The time of youth is too precious to be spent in pursuits which will merely cover *one* aim; he must, during these years, be equipped for the necessities of life and for progress; and he should follow the footsteps of his forefather's, imbibing what is best of their culture and traditions: his school pursuits are to be so selected as to meet these needs. But at the same time, these same pursuits must be so chosen in sequence and graduation, as to be adapted to his growth from year to year, and to offer variety and scope to meet the manifold powers of his expanding nature. Further, they must not be selected on a basis of artificial theory, but they are to be indicated by the interest and impulses which the pupil himself manifests as we study his nature; to be brought, so far as may be, each into close relation with the rest; and finally they are all to be checked, controlled, and idealised by the one supreme aim of Education, which strives amid all opposition to give unity and singleness of aim to the character of the pupil, and to the selection of his pursuits at school.

§ 10.—We have designedly omitted one principle derived from the nature of the child, because it should find more appropriate scope for treatment in another part of the theory of Education, which (see p. 17, above) lies outside this volume. The child is a *social* being; he seeks after his kind; he learns more in association with them than in solitude. While, however, this feature of school life plays an important part in the choice of Recreations, and in the organisation of corporate life, it does not greatly affect the selection of Material. It plays, however, an important part in Method, see, *e.g.*, pp. 319, 321, 402. The due recognition of the child's social instincts may yet prove to be one of the central problems in educational reform, for it brings the school into close contact with the deeper socialistic problems which, to many, seem to hang like a vague, anxious shadow on the coming years of the new century

CHAPTER III

THE NATURE OF THE PURSUITS SELECTED FOR CLASS TEACHING

Two things fill the mind with ever new and increasing admiration and awe, the oftener and more steadily we reflect upon them: *the starry heavens above and the moral law within.*—KANT.

Die Geschichte ist die Lehrerin der Menschheit, und wenn sie es nicht wird, so tragen die Jugendlehrer der Geschichte die Schuld.—HERBART.

Therefore am I still
A lover of the meadows and the woods,
And mountains; and of all that we behold
From this green earth: of all the mighty world
Of eye and ear.
—WORDSWORTH, *Tintern Abbey.*

Geometry is a physical science.—CLIFFORD, *Common Sense of the Exact Sciences*, p. 47 (Kegan Paul and Co., International Scientific Series).

Schreiben ist ein Missbrauch der Sprache: still für sich lesen ein trauriges Surrogat der Rede.—GOETHE, *Dichtung und Wahreit*, Book 10.

The immediate task set before a boy, in all the processes of classical education, is to ascertain exactly the equivalence of the languages. . . But the normal function of language is not to represent another language, but to express and communicate facts.—The late HENRY SIDGWICK, in *Essays on a Liberal Education* (Macmillan, 1868, now out of print).

Style in painting is the same as style in writing, a power over materials, whether words or colours, by which conceptions or sentiments are conveyed.—SIR JOSHUA REYNOLDS, *Discourses* (Blackie's Edition for Teachers, p. 35).

Wherever art is practised for its own sake, and the delight of the workman is in what *he* does and *produces*, instead of in what he interprets or exhibits,—there art has an influence of the most fatal kind on brain and heart, and it issues, if long pursued, in the destruction both of intellectual power and moral principle; whereas art, devoted humbly and self-forgetfully to the clear statement and record of the facts of the universe, is always helpful and beneficent to mankind, full of comfort, strength, and salvation.—RUSKIN: Lecture at South Kensington Museum (in *The Two Paths*, p. 14).

§. 1.—MANY discussions, about Education as about other problems, would be shortened, if the disputants would first define their terms. And, in the treatment of a science which is still in its infancy, it is especially necessary to take these preliminary steps. Indeed, if Education is at all worthy to be ranked as a scientific pursuit, the first task of those who take it in hand must be to systematise its technical terms.[1] Hence then we need not regard it as a superfluous task to spend a chapter upon questions which are too often taken for granted. The lecturer on the teaching of Geography, or the teaching of Language, assumes that he and his hearers are at one as to the scope and meaning of "Geography" and "Language," but the opposite is not seldom the case.

It will be observed that this inquiry takes us away, for the time being, from Class Teaching. We shall conduct the inquiry, as far as possible, apart from ulterior considerations as to aims or methods; the child and the school are put out of sight, and we inquire as to the nature of these pursuits in themselves. Many writers on Education offer such a classification,[1] but their schemes are usually planned on a subjective basis, invented for the special purpose of supporting other portions of their theory. The effort here proposed is to treat the inquiry objectively and, if the following scheme seems to fail in this feature, it will at any rate serve to show the importance of the standpoint adopted, whatever may be the difficulties encountered. The equipment for such an inquiry is philosophic rather than pedagogic. We are to watch men and women, and children too, absorbed in all manner of pursuits, and we are to arrange these pursuits in groups appropriate to the nature of each, as they come before us.

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[1] See Preface, above.

§ 2.—Our first observation is a distinction between pursuits which involve effort and those which are undertaken by way of reaction from effort.[2] The first we call Work, the second Recreation or Play. It may certainly be objected that what is play to one man is work to another, but the objection is not serious. Employments which for most people demand strain and effort are clearly distinguished in practice from those which mainly serve the purpose of recuperation with a view to further effort. Recreation implies the relaxation of those powers which have been strained during the hours of work. The body has been confined: it is now at ease and can exercise freely; the mind has been at attention: it can now roam freely; the will has been under control: spontaneous action is now permitted.[1]

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[1] See especially W. T. Harris, *The Necessity for Five Coordinated Groups of Studies in the Schools* (Education Review of New York, April, 1896). Dr. Harris's views are especially important because of his great influence upon American teachers; his views underlie the famous Report of the Committee of Fifteen.

[2] Aristotle, *Ethics*, book x.

In the strict sense of the term, Class Teaching can hardly be said to take account of Recreation: nevertheless we have in Great Britain two types of school in which Games are definitely employed as a means for achieving the educational end. In the Kindergarten they are correlated with song and story: in the Public Schools they are administered with as much attention as is bestowed on Latin and Greek. But it must be admitted that when recreation is thus controlled and directed, it loses somewhat of that element of spontaneity and idle rest, which at bottom distinguishes play from work. Much divergence of opinion is expressed as to the pupil's need for periods of such absolute recreation: some would be inclined to say that the hours of sleep are sufficient for the purpose; and that a healthy boy or girl demands occupation the whole day through. Others will distrust our distinction between Play and Work, as being applicable rather to adults than to children; they will maintain that all labour should be so congenial as to be pursued with spontaneous zeal.

Such opinions contain much that is true, but they are only half-truths. We must adhere to our line of division between Work and Play, but we can define our terms more fully in order to meet criticism half-way.

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[1] The chief difficulty in classification will arise when we have to group exercises such as Gymnastics which are often intended to serve the purpose of recreation, but which make a serious strain upon the pupil's attention. Such exercises contain some of the elements of recreation, but not all. The recent investigations by German psychologists on the question of over-pressure show quite emphatically that the *Turnstunde* (Gymnastic lesson) in the German school does not serve the purpose of recreation.

Work strains mainly the mental life: hence Play strikes the balance by recuperating the physical life. Nevertheless all work calls upon the physical powers, and some school pursuits give real scope to bodily powers. Work may, and should be, carried on under happy conditions and should be enjoyed by the worker, but it deals with serious and difficult problems, and hence makes a call upon the worker's powers which in time exhaust him. Play and rest then step in, not as a happy change from a distasteful task, but merely as a necessary relaxation.

§ 3.—Leaving recreative pursuits on one side for the moment, we may group the more serious pursuits of school as, firstly, those which aim at the attainment of *knowledge*, and secondly, the various Arts, whose end is to acquire *skill*. The first appeal mainly to the sensory, receptive, intellectual elements of mind, the second to the motor, active, volitional elements. This distribution is sufficiently familiar; the scholar and the artist, the theorist and the practitioner, present on every hand two contrasted types bearing their marks of origin in every feature. It is true that knowledge and skill are closely related and are mutually dependent; he who learns must put out his learning to use, if only to become more learned; and the arts can only progress so far as they keep in touch with the advance of knowledge. But the closeness of these relations does not prevent us from recognising the sharp severance between the two. Many school pursuits at once take rank on one side or the other. Among branches of knowledge we include most of the studies which have filled the school time table in modern times, since the days of the Renaissance: Literature, History, Mathematics, and in recent days the Natural Sciences. The cultivation of skill in arts[1] has failed to claim such ample recognition: we must go back to the days of Greece to find a curriculum which offered a fair balance between the attainment of knowledge and the acquirement of skill. Music and the arts of representation found a recognition in the liberal education of a Greek boy to which there is no parallel in later times.[2]

We have omitted one important group of pursuits; those that we class under the name of Language. The traditions of the schoolroom would require us to register Languages, at least the study of alien tongues, under the head of Knowledge, for these have been at all times closely connected with the Humanities, with the History and Literature of the people who speak the tongues. And, from the standpoint of Method, it must be conceded too that there is a science of Language (Grammar, Philology, Phonetics) which can only be attained by intellectual processes. But, on the other hand, if we inquire what is the exact nature of Language in itself, what is its purpose and function in human affairs, we have to admit that it is eventually an art, ranking as a useful art for the common purpose of intercourse, and also as one of the noblest of the fine arts. The aim in acquiring Language is not to arrive at new ideas, at new truths relating to man or nature, but to create new forms for expressing ideas, to put thought and feeling into speech, precisely as the painter puts thought and feeling upon canvas.[1] We must concede that Grammar and Phonetics are bodies of science, but they are only subordinate means for the acquirement of the arts of speech, and the controversy at present agitating the Teachers of Modern Languages as to method [2] are largely due to the refusal to recognise Language as a partner with Music and Drawing among the Arts; its traditional alliance with the sciences must be abandoned before an appropriate method of acquirement can be evolved.

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[1] The term "art" is adopted here—after much hesitation—to include useful as well as fine arts (see Chap. XI, p. 243, below). Many who use the term will object; thus, "A work, or performance, which can be proved to serve any utilitarian, non-æsthetic object, must not be considered as a genuine work of art."—Yjrö Hirn (*The Origins of Art*, p. 19, Macmillan, 1900).

[2] See above, pp. 42 and 49.

The end of instruction in a science is to attain new knowledge; concepts are formulated; laws are discovered, and these are applied to further observations and experiences; with this achievement the student is content. But the end, the aim of an art is quite otherwise. It has nothing to do with laws or principles: it may indeed develop *rules*, and it may either obey or reject rules when made.

A story told by Ruskin about Tennyson illustrates finely the difference between the poet and the scholar. An intimate friend set himself to find out all the rules of Tennyson's versification, and collected together, from his verses, an immense number of laws and examples. "Look here," said he, "what wonderful laws you observe." "It's all true," said the poet, "I do observe them, but I never knew it!" (From a lecture by John Ruskin.) At a lower range M. Jourdain in the French play may be cited. He had practised all his life the humble art of talking prose, and "never knew it!"

As a matter of classification then we place Language, both of the mother-tongue and of foreign tongues, among the Arts, and we recognise, among the functions of the school, the duty of training the pupil to express himself in the arts of speech and writing, if not with the taste and power of an artist, at any rate with a moderate equipment suitable to the demands of his social environment. If for the achievement of this purpose the pupil requires the aid of Grammar or of other sciences, we must supply this aid, recognising here as elsewhere the mutual dependence of science and art. The *Content* of Literature must therefore be studied, as knowledge, but the *Form* of Literature, as art (Art of Language).

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[1] Herbart's *All. Pädagogik,* II, 4, should be read in this connection (or in Felkin's translation, *The Science of Education*, pp. 150, 151; Swan Sonnenschein, 1892).

[2] See Chap. XV., below.

§ 4.—Another mode of grouping these pursuits is suggested when we inquire, as to the *objects* upon which the scholar and the artist are engaged. What are the realms of thought out of which the one procures his knowledge, and the other the materials of his art? We answer that the artist and the scholar turn to the same sources—sometimes to the life of *mankind*, sometimes to the *natural world*. This distinction (which we accepted from Herbart in the last chapter) between Interests arising from human intercourse,[1] and Interests arising from experience[2] of the natural world, holds true not only for the child, but for all human beings. The Humanities, which, if we agree with Pope, are "the proper study of mankind," cannot be confused with the Natural Sciences, although both are pursued with a view to the attainment of knowledge. We may visit Stonehenge either to learn something of the early history of our race or to learn something of the secrets of Geology, but no one is likely to mistake the historian for the geologist. The two may work with the same materials, and in their ultimate researches they are confronted with the same awful problems as to the origin of existence; but their tools and their methods stand wide apart; for the humanist must often be guided by sympathy with his fellows, and by knowledge of human nature, while the man of science follows solely the result of observation and experiment.

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[1] *Umgang.*

[2] *Erfahrung.*

Geography is the one branch of knowledge which may perhaps be claimed both by the Humanities and by the Natural Sciences; and its importance at the present moment in Education makes it necessary to assign it a place. As commonly pursued, and as defined by German teachers who have been the pioneers in the higher teaching of Geography, it is in reality two sciences. As Physiography, treating of the globe and the effects of human civilisation on the aspect of the globe, it is clearly a Natural Science,[1] and should find proper treatment in the school as a part of a complete scheme of practical science instruction (see Appendix, p. 425, below). But if Geography be treated as a description of man's fortunes on the globe, of his cities and his markets, of his travels and acquisitions, then Geography, whether we call it Historical, Political, or Commercial, is a part of the Humanities, and should be taught in close connection with other humane studies; for it will in this case need to be apperceived by the pupil as a part of his own experience, and utilised by him as an art and a habit when he travels, or when he reads and hears of the doings of his fellow-men[2] on the face of the globe.

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[1] Compare *Suggestions for Teachers* (Board of Education publications, 1905), p. 54.

[2] This dual aspect of Geography has apparently led to a most interesting but misleading Theory of Concentration (see p. 46, above), expounded by Francis Parker in his *Talks on Pedagogics* (Chicago, 1897). Parker's writings are little known in Great Britain, and they have been made the subject of

§ 5.—A further subdivision of the field of Knowledge is made when we bear in mind that some branches of study are *abstracted* or derived from others. They are, in a special sense, the product of intellectual activity, devised by man as instruments for investigation; tools by which he continues his researches into the mysteries of the natural world, and the still deeper mysteries of human existence. The readiest example of such a science is Mathematics, dealing with the phenomena of number and space, as these display themselves to the observation of mankind.

All bodies of knowledge lead up to spheres of more advanced thought, which are abstracted from and depend upon the more simple and concrete material from which they spring; and the arts also are made the subject of reflection, which is expressed in a theory of the art. Thus music is acquired, but the musician, in modern days at least, cannot go far without some intellectual appreciation of the theory of musical structure.

The cardinal fact for the teacher to bear in mind is that an abstract body of knowledge can only be rightly acquired, can only be of service, so far as it *is* abstracted, and felt by the pupil to be abstracted, from concrete material. The teachers of Mathematics are now beginning to admit the validity of this relationship. It has been recognised, first of all, in

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ridicule at times. He appears, like Froebel, to be unable always to give clear expression to his thoughts, but he and his friends of the Chicago Institute are exerting a quite exceptional influence in America. Much that he says is expressed in extreme language, but his practical achievements among children merit careful attention.

Geography, with Parker, becomes a kind of centre for the whole curriculum, but he uses the term "Geography" to embrace many matters outside the scope of the term as commonly employed.

the Universities, where the Mathematician is encouraged to be also a student of Physics; and a reform which is sanctioned in the University to-day will be pressed upon the schools to-morrow. Indeed, some of the schools have anticipated the Universities, for Froebelians have long seen the wisdom of teaching the first abstractions in Number and Space by correlation with pursuits in which concrete sense-impressions are presented (compare Appendix I.).

It might be fairly objected that such abstract bodies of knowledge should not be grouped apart, but should be grouped under those more concrete pursuits from which they are abstracted. But this is impracticable, for, while this intimacy of origin should never be ignored, we cannot rightly cripple the activity of the mind by binding it down at every point to sense-impressions. These abstract bodies of knowledge have come of age; they have evolved their own method and modes of exposition; the mind, when fitted for the study, delights to explore and conceive these new forms of thought.

It may be granted that geometry and grammar are not found among the empirical interests of the young child; but it is the function of teaching to encourage the development of new fields of interest, and an older boy or girl will display abundant interest (of the kind called by Herbart "speculative") in these abstract studies, especially if they have not been forced upon him before the mind is fitted for such exercise.

§ 6. *The Arts.*[1]—This distinction between the natural world and world of human intercourse is equally suggestive when we come to analyse the arts. For while all the arts are employed equally to represent all sorts of ideas, we recognise a close association between the Humanities and the symbolic Arts of Language and Music; and an equally close association between the visible world of Nature and the arts of representation which express themselves in the concrete material of wood and stone and colour.

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[1] No attempt is made in this volume to give an adequate list of references to authorities, but the writer's indebtedness to Reynolds's *Discourses* is apparent, especially in Chapters XIV and XV below: and to Ruskin equally so; especially *The Two Paths* and *The Eagle's Nest.*

All the arts alike give expression to the mind and heart of man, but the "Natural" Arts are *directly* interpretative only of Nature, and it is only through images of the external world that the painter can reveal his inner thoughts and feelings. It is in speech, in music, in the drama, that the artist is *directly* expressing his inner mind, using symbols whose sole function is to achieve that end. The sculptor can indeed create in marble a gladiator at the point of death, and his work will convey some tragic meaning even to an idle globe-trotter who knows nothing of the story; but the symbols of speech (see § 10 below), by which the poet makes us see the arena, and the Roman holiday, bring us fully and at once into touch with the poet's soul.

There are other qualities of artistic pursuits which need to be borne in mind.

An art may be pursued as a fine art, for the ends of liberal culture, or as a mechanical art, for the ends of production or commercial gain. The school has no direct concern with commercial gain; but it is ethically justified in encouraging the acquirement of such arts as are necessary for Equipment. Such are the arts of language, Reading, Writing, Composition, the arts of good behaviour, the art of drawing with the pencil. These are necessary merely for Equipment; but the teacher who aims at liberal education will seek to cultivate these humble arts as fine arts also, associating them with worthy content, drawn from the best sources in human story and in the natural world. It is by correlation, by keeping ever in view the central aims of life, that the teacher, like the artist, is able to raise these pursuits above the base level of mechanical drudgery. Not, indeed, without mechanical labour; not without the pain and toil which every workman, be he drudge or artist, must endure; but with the sense of power and hope which can create art in the cottage as well as in the palace. As was said by George Herbert—

> A servant with this clause
>   Makes drudgery divine;
> Who sweeps a room as for Thy cause
>   Makes that, and the action, fine.

Culture is not the monopoly of those who write Greek verses: it consists, finally, in the power of turning the common pursuits of life into fine arts, by conducting these in the liberal temper imparted by Education.

Art, again, is creative. He who studies the art of literature must not only contemplate the works of others and interpret these: he must himself produce: he must write his own composition as best he can. It is remarkable that, while no one proposes to train children to write English poetry,[1] the art of writing verse in Latin and Greek is still pursued: apparently because the teachers of Classics still feel that interpretation and contemplation of Classical literature cannot be thoroughly undertaken unless the student tries to imitate the models. But, if this is true of one group of literary models, it is true of another;

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[1] But see p. 77, below.

and as soon as the examiners in English recognise English Literature as an art, they will expect our students of poetry to show at least some evidence of artistic study. They may not venture to require exercises in verse, but they may surely exact evidence of power in interpretation, by requiring the student to recite the original with some power of expression (compare Chaps. XIV and XV).

But, whatever examiners may require, young people will not be hindered from artistic expression, if they are environed by artistic forms, and are permitted to expand under the influence of nature and society. The following scrap was given to the present writer by a little girl of seven, whom he met by chance at a friend's house one day: the child was not a prig, but she said that she liked reading poetry, and she wrote her own poetry, thus:—

THE MOON

The silver Moon
The silver Moon
Like a lamp in the sky.
I wonder what she is up there
The shineing gas on high

She looks as if she had got a face
With eyes that upward look
And here am I in the world below
sitting to read a book.

This pretty bit of verse is not an exceptional performance, as witness *Specimens of Work from an Elementary School*, produced by the little boys and girls at Hackney in Mr. Sargant's school.[1] So far as drawing and painting are concerned, all good

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[1] Longmans, 1894. It is a lithographed work of which only a hundred copies were produced, but it may be seen in the Teacher's Guild Library and elsewhere. *The Play Way*, by H. Caldwell Cook (Methuen, 1918), can now be referred to.

Kindergartens give opportunity to the child for expressing his inner mind, and the conclusion is irresistible—the child craves for action, for self-expression; he is willing to copy, to reproduce, to imitate in recitation, to sing the notes of others, but he is also ready to sing his own song, to make his own picture, to tell his own story. Let him have the chance!

§ 7.—We are now prepared to take hold of all the employments upon which pupils are engaged at school, and group these according to their nature: by so doing we shall at the same time anticipate many questions relating to "Educational Values."[1]

This phrase has gained a certain foothold in books on Education, and the reader will perceive that we are solving in our own way the problem of the value of the various school pursuits. We do not approach the problem directly, for it seems idle to discuss in the abstract the "value" of Latin or Arithmetic; such discussions would bring us back to the discarded arguments of faculty-psychology—worth no more to the teacher than the conventional discussion of commercial values in the old text-books of Political Economy. We approach the inquiry by a flank movement, and shall find ourselves provided with an answer to the question of Educational Values, without explicitly weighing out a percentage of worth to any particular branch of study. We are also preparing the way for an answer to questions as to Method, which we discuss in the last section of this book. An agreement as to the nature of the Material which has to be handled in Class Teaching clears up many doubtful points as to the Method on which we shall undertake this handling.

Group I. *The Humanities*,[2] *i.e.*, all those bodies of knowledge which deal with the life of man in the present or the past, including past history, and the literature in which the mind and thoughts of men have been expressed. Much of the child's education in this sphere is gained, now as in earlier days, apart from the school. The earliest record of such instruction is found in the object-lesson given to Israelitish children by their parents at the River Jordan.[1] The school can only serve as a supplementary aid to the multitude of impressions from family life, from the Church or Chapel, from reading and from social intercourse, which turn the "sensational" infant into a human being. The Humanities, like all other studies, must begin "at home." While the great stories, which rank as "classics," will always claim a prominent place, it is too easy to forget that homely and familiar environment often provides the theatre for a great event. "A Window in Thrums" is a great tragedy, although princes and captains play no part in it. The youngest children are obviously unfit for "classical" story, but at all ages the same truth needs to be borne in mind.

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[1] The valuable paper by James Ward under this title has already been referred to.

[2] It would be interesting to trace the revived use of this term during the last fourteen years: to include not only the Humanities as studied in the old Universities, but the Modern Humanism on which Professor Jebb discoursed recently. The present writer hit upon the term, while in Germany, as an appropriate equivalent for the Herbartian phrase, *Gesinnungs Unterricht.*

The ordinary Time Table of a school makes four branches out of this Group:—

(1) Lessons in the Bible, which is at once History and Literature.
(2) History, firstly, of one's own country, secondly, of foreign or ancient peoples.
(3) Literature, mainly poetry, but also prose.
(4) Geography, so far as it deals with Man in the world (see p. 61, above).

The Bible lesson is expressly intended as a supplement to the more personal and private influence of the Church and the home; for the public school of the present day, being composed of pupils of immature development and of all variety of domestic upbringing, cannot venture to deal with the hidden life of the child; and where it ventures so to intrude, it pays the penalty. Hence this portion of the Time Table cannot easily be incorporated with the rest of the teaching of the Humanities. The Herbartians at Jena make a bold effort to achieve complete concentration by teaching profane and sacred history on parallel lines of Culture-Epochs,[1] but if we desired to imitate them in this effort we should fail.

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[1] Joshua iv. 6 (see above, p. 25).

The Scriptures, as taught in an English institution for public education, ought to be limited to giving the pupil a proper acquaintance with the main thread of the story of the Old and New Testaments.

This is not the place to discuss the difficulty felt by teachers here and there owing to the conflict of creeds. The matter is important, but in most schools it solves itself without hypocrisy, and without controversy with those who control the school. The proper discussion of this topic belongs rather to a treatise on "The Control of Education" (see p. 9, above).

History, as taught in schools, is a very modern pursuit: our forefathers never taught it apart from Literature. Sir Roger de Coverley had read the plays of Shakespeare from John to Henry VIII., and he had a better grasp of the story, than the boy who "gets up" the period in a Fifth Standard "Historical Reader."

To the scholar, History is a great science, (*Wissenschaft*): to the boy or girl, it cannot be the same, for their minds cannot grasp the abstractions of thought on politics and social affairs. Hence it seems better to drop the terms History and Literature altogether, and substitute the one term

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[1] See Rein, *Outlines of Pedagogics*, p. 118, and the Schuljahre for the eight years.

"Humanities." We must select, out of the great drama of human affairs, those periods, events, stories, for study, which in themselves are worthy, and which are most appropriate to the pupil's stage of growth: we must enable him to apprehend these by means of our own words, of material drawn from men's speech and writing (which is literature), from pictures and other modes of sense-impression, and from dramatic representation.

It is true that the subject-matter of Literature does not always deal with History, and certainly it is not limited to the History contained in the common text-books. And the lover of literature will be inclined to say that we shall be shutting out the poetry of nature, and limiting our school studies to the ballad and the war-song. But this is by no means the intention. Literature is, in the largest sense, the expression of human life; and the Humanities must be taken to include the whole circle of human interests of which the pupil is capable. We have given a place to Nature Knowledge among the pursuits of school, and we readily recognise that such pursuits humanise the pupil, and may lead him to a literature in which such culture finds expression—

> "well pleased to recognise,
> In nature and the language of the sense,
> The anchor of my purest thoughts. . . ."

Wordsworth's appreciation of Nature was subjective; it changed even in him with the change of years;[1] and these sentiments so overpowered his mind that he refused to appreciate the objective attitude of the student of science.[2] It is possible, however, to sit at the feet of Wordsworth and at the same time to delight in the analytic processes of Botany and Biology: it is possible to dissect *without* murder.

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[1] "Not as in the hours of thoughtless youth,
For nature then to me . . ."

[2] "The Poet's Epitaph."

§ 8.—Group II. *The Natural Sciences.* — The Sciences commonly pursued in English schools under this head are Chemistry and Physics, with the addition of much miscellaneous instruction under the name of Object Lessons, or Elementary Science. But it is well understood that these particular sciences have not been chosen after a careful review of the whole needs of the situation, after a complete survey of principles such as we have discussed in the last chapter: on the contrary, they have been chosen almost wholly in response to the demand for Equipment (see p. 23, above); and this demand has been pressed in season and out of season, in spite of the protests of eminent men of science.

The recent inquiries conducted by the London School Board and by the Technical Board of the London County Council gave ample evidence on this point. One Professor after another declared that Chemistry was of little service before a boy reached the age of 15 or 16. And yet thousands of English boys are being taught Chemistry, with Physics, at an earlier age, as if these two sciences were Siamese twins which could not be successfully pursued except when combined in one time-table.

In planning a curriculum we shall therefore hold ourselves free to include in this group the whole realm of natural sciences, as presented to us in sense experience. "The earth and they that dwell therein" is our field of study, and nothing less than this appears before the eyes of the growing child. Biology offers the three realms of Fossil life (Palæontology, Mineralogy, Geology), Vegetable life (Botany), and Animal life (Zoology); and each of these divisions can be studied from the standpoint of distribution, structure, and function. Thereupon follow the sciences which deal with Matter—Physiography, Physics, Chemistry; and finally any and all of these may be treated in relationship to the life of Man:—whereupon we proceed to Geography.

Here is an embarrassing field for Material: but the principles of the last chapter will serve us when we come to the task of selection.

It will be observed that we have omitted a few branches of study which are pursued here and there in schools under the name of Science. Agriculture and Engineering are sometimes placed in the curriculum of a Secondary School, and associated with Chemistry and Physics. But they certainly do not belong to the group of Natural Sciences; it is misleading to describe these pursuits by the name of Science. They are practical Arts, and should be taught and acquired as such;[1] it is true that, like all other Arts, they seek the aid of various Sciences, and they produce their own theories and systems, which may fairly be called "science" if desired. But to class these professional studies along with the Natural Sciences is to produce confusion.

§ 9.—Group III. *Abstract Sciences.*—We group under this head a large variety of studies, because they have a common relationship to the mind of man—they are the products of his thought. He applies this same process of thought, abstraction, to all phenomena, both of human life and of the external world: hence the series of Abstract Sciences is co-extensive with the range of orderly experience.

Many of these sciences have no place in the school, for they can only be apprehended by the adult mind. Logic, Psychology, Ethics, Theology, and, above all, Philosophy, which seeks to combine all abstract thinking into the highest forms of speculation —these may be dismissed from view. We shall also venture to dismiss a number of social sciences, such as Civics and Economics. These are still advocated by many administrators, and books are written on such subjects for school use. But they are forced on the pupil's mind in defiance of psychology. An abstract science can only be apperceived by the aid of concrete experiences: apart from such experience the science becomes a mere juggling with terms. Let the terms be what you will—capital and labour, or bribery and corruption—if the learner has no basis of experience or of analogous apperceiving concept to rely upon, he is deluding himself with idle words. This plea has at last been accepted in the study of the Natural Sciences, and the same principle should surely be applied in our approach to the Abstract Sciences; from whatever Group they may be abstracted, the value to the learner must depend upon the source whence they are derived.

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[1] See below, Chaps. XIV, XV. and p. 57, above.

There remains, therefore, that series of studies which we group under the head of Mathematics, commencing with the simplest abstractions of Pure Mathematics, dealing with Number, Space, and Quantity, and including finally an ever-extending range of studies concerning Value, Motion, Force, Heat, Light, Sound, &c., which, so far as they are developed in connection with Number, Space, and Quantity, are classed as Abstract Sciences, and named Applied Mathematics.

Such is the logical place of Mathematics in relation to the Natural Sciences; and in relation also to those technical careers above referred to—Engineering, Manufacture, &c. Mathematics, if it is to be of use as equipment for such pursuits, must be strictly taught as the outcome of Natural Science;[1] and the source of the abstract science must be continually admitted. But the merchant will here raise a protest. Mathematics, or at least Arithmetic, is a useful art, and he will request us to alter our classification, and see to it that the pupil learns the habit of calculating with precision and speed. We will admit the force of his plea, and agree that there is an art of Mathematics: it consists in correct practice of rules relating to number and space; but we desire in the school to cultivate this skill with intelligence, and shall not be content with mere mechanical facility. Hence, this plea will not induce us to alter our classification, for Mathematics in itself is a scientific pursuit; but we shall take the hint in good part, and remind the teacher that he must pay due regard to the equipment of his pupil; in schools where the children are likely to require this rapid facility in figures, they should make progress in these arts of calculation before they leave the school.[2]

Grammar.—We have left the abstract science of Grammar to the last, because it presents a special difficulty. It is certainly a science, and in grouping must be studied by the methods of observation proper to all sciences, but it is derived from the arts of language; and language is not a fixed form, but it develops—it has been subject to growth and change. In spite of the printing press, our forms of speech still refuse to be fixed to one pattern. This difficulty, peculiar to the nature of the Science of Language, makes it difficult for young people to pursue the study *as a science* with any success, beyond the simplest elements of analysis.

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[1] Cp. Clifford, as quoted at the head of this chapter.

[2] See pp. 163 and 212, below.

Further, the object of the study of Grammar is evidently to assist the pupil in attaining the arts of language: hence, from the teacher's point of view, Grammar does not claim to be classed independently as an abstract science, but it may take its place in our next group as a study subsidiary to the Arts of Language. It is true that grammarians will continue to proclaim the special value of Grammar, more particularly of Latin Grammar, as a mental gymnastic: but, as we have already broken away from the theories and shibboleths which gather round that term, we need not fight the battle again.

The fact that the grammar of the mother tongue offers in itself so limited a field for teaching led to its being entirely ignored in the Grammar and Public Schools, until, about thirty years ago, two distinguished teachers, Thring at Uppingham, and Abbott at the City of London, saw the importance of covering this field, although it be so small, with the utmost care. Since their day, it has come to be widely admitted that parsing and analysis, practised with examples from the mother tongue, are a useful preparation for the arts of foreign tongues thereafter. This plan supports our proposal to group the science of Grammar in subordination to the Arts of Expression (§ 10).

Side by side, however, with this attention to elementary Grammar, the pleas of specialists in English Philology have forced their way, and have gained a hold upon schools largely because of the syllabus adopted for the London University Matriculation. Grammar here is Philology: the fluctuating nature of speech gives the opportunity for developing a Science of Language, quite apart from the Art; a science, too, which is abstracted, not from the field of observation open to the pupil, but from documents, few of which come within his range of vision. But we cannot give a separate place to the science of Historical Grammar or Philology as an independent branch of study in schools. Within strict limits it may find a place in the teaching of Literature to higher Forms, when Chaucer and Spenser are being read, but on the whole we are in agreement with the common verdict of teachers in delaying the study until the University period.

§ 10.—Group IV. *The Arts of Symbolic or Conventional Expression.*[1]—The Art of Language is now, as ever, the supreme art—supreme, that is to say, among grown men; at once the most universal and the most exalted means of communicating ideas. It must, however, not be forgotten that it has not the same hold upon the young child. If well taught in the Kindergarten, he will express himself more readily in chalk and colours than in speech.

Hence two important features of a good curriculum. (1) In the early years, right up to the time of puberty, abundant opportunity must be given for expression in the arts of representation (Group V.). Mental progress depends upon expression, and if the modes of expression natural to the child be refused, the mind will not grow. (2) The traditional curriculum is right in giving, as the pupil advances in years, a large place to the Art of Language, for without this art the adult is fettered, as much as is the child when deprived of clay, pencil, or chalk.

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[1] If space permitted, it might be of advantage to inquire further into the nature and influence of the arts of speech as a school pursuit. To Carlyle, writing in the fifties, this seemed to be the one business of the schoolmaster—*vide Latter-Day Pamphlets* (People's Edition), pp. 150-155. His words are very true to facts as regards the history of Education, but Carlyle does not explain *how* it has come to pass that the Art of Speech (the Black Art, as he calls it) has usurped so large a place in the school since the Mediæval era. One reason, surely, is the diffusion of letters by means of printing, and, during the nineteenth century again, the acceleration of this diffusion by mechanical inventions. The whole topic needs fuller investigation than is possible in this volume. And Carlyle's interpretation of the history of language study cannot be left out of account, although he *did* write more than thirty volumes in defence of his Gospel of Silence.

It will be our task in later chapters to discuss the problem as to how the arts of language are acquired. It is only necessary here to emphasise the characteristic features of these arts.

(*a*) Art, as we have seen, is action. He only has acquired a language who utters it: he must speak in it or write in it; he must put it to use. If he can only talk *about* the language, mentioning various rules, which *others* practise; if he can only recite its grammar and its syntax, and sketch a few halting examples in illustration of these rules—he is nothing. Language must submit itself to the same laws as apply to all other arts.

The study of the history of Classical Teaching shows how needful it is to regain the artistic standpoint with reference to foreign speech. The subject needs extended treatment, which would be out of place here. The reader may refer to Parker's Essay in *Essays on behalf of a Liberal Education* (out of print: Macmillan, 1868); to D'Arcy Thompson's most picturesque *Day Dreams of a Schoolmaster;* to Paulsen, *Geschichte des gelehrten Unterrichts;* to Hale, *The Art of Reading Latin* (Ginn & Co., 1880); Hamerton, *The Intellectual Life* (Longmans). Current methods in schools and Universities of acquiring a dead language are to be traced not to the best and brightest periods of education and culture, but to the period of decline which followed the Renaissance.

A note by Mr. W. H. D. Rouse (*Journal of Education*, December, 1901), on "Verse-Writing" (in English as well as foreign languages) by schoolboys, is also worth attention, and may be compared with the example in § 6 above.

(*b*) "Art for Art's sake" is a motto which should be banished from the school. The traditions of all worthy teachers point the same moral—that cleverness and skill in the Forms of Art degrade the worker[1] unless his mind and heart are filled with worthy "Content" associated with those "Forms." The teacher of French who has no higher motive for teaching than to enable his pupils to patter French talk has no business to be teaching them at all. If there is anything worthy of study in the literature and life of the French people: if, by learning this speech, the pupil can gain some real culture and be the better man because he has become something of a Frenchman—then he may safely learn French. But if not, he may as well learn the language of Fiji. If we desire honestly to preserve an ideal of liberal education, aiming at character and culture, we are bound to challenge every art and science which appears on the Time Table, and to demand, not only whether they enable the pupil to earn money, but rather whether they will help him to live a worthy life. And the answer as to the value of language-study, and as to the comparative value of this or that language, must depend in part upon the worth to the human race of the people whose language and life are to be placed before the pupil.

Music and the Drama stand on a different footing from Language, for while language is at the same time both a useful and a fine art, they only minister to pleasure, and can only be cultivated in the school, either as a means of recreation, or of refinement. Singing and acting are natural to young children: they delight to express themselves in these arts as much as by drawing and painting; and no one, until the 18th century, would have dreamt of denying the claim of music among the branches of a liberal education. An influence which exerts such magical power over all bodies of men in every age cannot fail to sway the corporate life of school (see Chaps. VIII and XV as to lessons in Music).

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[1] "It was but the tangible sign of what other faculties the man had in the silent state."—Carlyle, as above, p. 157.

The drama plays a very small part in modern school life. It survives in the Greek and Latin plays performed in a few schools, and it has been revived in the imitative Games (which should properly be called "Plays") of the Kindergarten. The study of Shakespeare as pursued in our schools serves at least one purpose—it enables the pupil to realise what might be done if he were permitted to express in act and speech the drama which he "gets up" for an examiner. We have classified the drama with Language, because it is so largely a matter of speech: but, as acting, it may more properly be transferred to the next group, because it aims at natural representation.

§ 11.—Group V. *The Arts of Representation (or Natural Expression).*—The frequent reference which has been made in previous paragraphs to these arts makes it unnecessary to describe them further. We employ the term "Representation" as contrasted with "Symbolic Expression." The symbols employed in Language and Music do in a sense represent the ideas of the artist; but these symbols are conventional, they have no likeness to the original, which they portray.

Many artists would quarrel with this distinction, and no doubt our classification in this chapter is biassed by our point of view. We are considering especially the minds of children, and for them at any rate art is realistic; they are little able to appreciate the abstract pleasure of æsthetic form and colour, apart from relations of design and purpose. The picture, the statue, mean little to them apart from their sympathy with the characters. Even if they display, as is common enough, a vague pleasure in charming surroundings, *their own expression* in art forms can only be exhibited in concrete work.

By way of example:—a beautiful wall-paper means much to an adult artist; he possesses a multitude of experiences in form and colour, which enable him to enjoy the conventional design, quite apart from any concrete setting: even so, an artist in words will delight in a passage from Shelley or Keats simply on æsthetic grounds, content that to him at least "a thing of beauty is a joy for ever." But with the child this is not so. Let him be surrounded by all means with beautiful environment, so that his senses may unconsciously form habits of right selection and appreciation; but if you desire to make him an active partner in artistic production, he must find interest and motive for the work additional to the æsthetic interest. Just as his poem must be about a hero whom he loves, or a scene which he has frequented, so his design will be created from a flower which he himself has gathered; his picture will be a sketch of a castle whose story has caught his imagination. Hence we maintain that at school the arts of drawing and painting, of modelling and carving, must refuse to be symbolic; they must be literally and visibly representative.

Another group of Arts might be supposed to have a place here, but we relegate them to Recreations, for they partake essentially of the nature of Play (see below, p. 83). These are sometimes called Manual Training Arts (Carpentery, Cookery, Needlework, &c.). They have certainly at times very close relations to the Arts of Representation, for all such practical production should be conducted in good taste, and should be æsthetically suggestive, but *in their own nature* they lie quite apart. The child who bakes a loaf, or makes a garden gate, produces these things by way of imitating his elders, and aims, as they do, at practical utility.[1] He is not, in the first instance, concerned, as in the Arts of Representation, with standards of taste, or with fidelity to an original copy.

§ 12.—Group VI. *Physical Recreations and Exercises.*—We include Physical Exercises among the branches of School Teaching, because they are (Chap. I. § 5) *means* employed by the teacher to achieve the educational aim. It is true that some of these pursuits are not undertaken as formal "lessons," but much may be done under the name of "teaching" which lies outside the traditional system of lesson-giving from a teacher's desk.

They may all be described as "physical," in so far as they make special demands upon the physical powers; but they are not all to the same extent recreative. The essential idea in recreation is to enable the mind to recover its full power, and from this standpoint change of air and of employment are only one among several means: food and sleep are the most essential factors in the re-creation of the body. And these recreative pursuits are sometimes a hindrance to recovery if they repeat the strain of attention and effort which is demanded by the ordinary school lesson. There are no means of education which are employed so variously, and there are the most extreme differences of opinion as to the value of these various forms of exercise and recreations. We may avoid such controversies, and content ourselves with a classification of the most important, according to their nature.

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[1] Called by Ruskin *Arts of Construction* (see, *e.g.*, *The Eagle's Nest*, p. 47).

(*a*) *Simple Physical Activity.*—Gambol, romp, play (in the ordinary playground sense of the term), sport (in the old sense of the term). Even the most neglectful school recognises the necessity for relaxation of this kind. Its characteristic feature is the *spontaneous activity* of the child, in walking or running, or throwing a ball. It shows itself in its purest form in babyhood, and abides through the life of young children; but, as the child gets older, he combines it with some of the forms of exercise mentioned below. For his mind is not satisfied with mere physical motion: the boy and girl want to achieve something, at the same time that they exercise the body.

(*b*) *Imitative Exercises.*—The term "Play" ought, etymologically, to be confined to this kind of recreation. Delight in imitation is manifested at a very early age, not merely in the modes of instinctive reflex imitation, copying, but as conscious pleasure in deliberately imitating the actions and ways of others.[1] The Drama is the final outcome of this form of recreation; its value in teaching is recognised by Froebelians in the "Kindergarten-Spiele," invented by Froebel. This term has been carelessly translated "Games" by English teachers, but the correct rendering is "Plays."

Such play has always been a natural, spontaneous means of recreation to the young.[2] "We have piped unto you, and ye have not danced," complained the Jewish bairns to their comrades; and they were not the first children who played at weddings and funerals. The art commences in the nursery: it may and should be continued all through life, since, indeed, "All the world's a stage."

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[1] It is scarcely necessary to refer to the abundant literature of the last twenty years dealing with the History and Anthropology of Children's Games. Also see Chaps. XIV, XV.

[2] Chapters II. and III. in Mahaffy's *Old Greek Education* are very suggestive on the whole subject of this paragraph (Kegan Paul, 1881).

Imitative Arts of Construction.—We must assign to this section a group of pursuits which have come to a position of great importance in recent years, viz.: Manual Training Exercises, including Carpentry, Cookery, Bookbinding, Housewifery (where taught practically), and all other pursuits which *employ the child in making something in imitation of the pursuits of the adult.*

This classification needs, perhaps, some defence, for the leaders of the Manual Training movement will scarcely consent to have Sloyd or Cookery placed, in what they will consider an inferior position, among Recreative pursuits. Once more, therefore, we must revert to our method of definition: What are these pursuits in themselves, as related to the child who engages in them? They are, essentially, adult occupations, undertaken as means of maintenance, for food, shelter, clothing, and the like, under economic pressure.[1] Now, since the school child lies outside the realm of economic pressure, he cannot realise these motives, and he therefore undertakes such pursuits by way of imitation, gladly following patterns which his elders set him. It is true that the motives of teachers and managers who impose these pursuits are very different. Some are devotees of the faculty-psychology, and believe that the use of the chisel and the knife—especially the knife, Naas pattern—conveys special mental powers, developing the reason and the memory, cultivating habits of accuracy, and so forth, for which no other recipe of equal potency can be procured. Others, belonging to the practical school of Manual Trainers, pooh-pooh the theory of Sloyd, and frankly base their advocacy upon economic pressure. These pursuits are useful and practical to many adults: they are necessary to men and women, therefore boys and girls should make a start at them in good time.

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[1] Dewey, *The School and the Child*, pp. 70-88.

It will be seen that these two arguments are merely applications of principles discussed in the previous chapter (pp. 23 and 33), and by themselves they would not warrant us in giving Manual Training a place in the curriculum. If such arguments are to be admitted, we shall presently be required to find a place in our time table for all intelligent adult pursuits.

The question, however, stands on a different footing, if we accept the classification here offered. We find, as a matter of experience with children, that they *do* take a keen interest in the doings of their elders, so far as these come within their range. The clergyman's children play at preaching in the parsonage nursery: the carpenter's boy (and girl too) soon learn to use bench tools: all children like to play at keeping shop; and, if it were not for the hopeless exclusiveness of modern notions, every child, in "good society" as well as among the poor, would learn, by imitation, the duties of domestic service, after the despised fashion of the Middle Ages.

The Renaissance no doubt brought many blessings to Europe, but it did one grave harm to the life of children—it took them away from service, it made books and study the main object of the parents' ambition, and in course of time it has taught children to regard the arts of service and of production as menial and degrading, although in themselves they are congenial to child-nature, lying near to the child life of activity and observation.

Nor, when we classify these pursuits as imitative exercises, need we be charged with degrading them to the level of mechanical or vulgar pursuits. No art is vulgar in itself: its quality depends (as we have seen above, p. 65) upon the spirit with which it is undertaken.

Housewifery learnt under George Herbert's text will become a fine art! We assume, of course, that these practical occupations are closely associated with a complete scheme of liberal Education, with Arts of Representation, with the Humanities, with the Natural Sciences. The workshop of a school will surely exhibit better taste than the workshop of a speculative builder.

We will not divorce Manual Training from Fine Art, for we have learnt somewhat from William Morris as well as from Herr Salomon of Naas; we will give full scope to the imitative activities of our children, but we will suggest to them, by the surroundings of home and of school, as well as by direct example, that the objects produced may be at once useful and graceful: graceful because conceived in sympathy with what is noble both in Content and Form; useful because good artistic work, whether in wood or paper or clay, can be utilised, and should be used, for the adornment and service both of school and of home.

By way of example:—The strict Sloydist requires his pupil, among the series of models, to produce a wooden spoon. Now in England there is little use for such an article, except once a year in the Senate House at Cambridge; and, although plenty of children will be happy enough to work at spoon-making as a relief from sums or spelling, it would surely be better for them to be engaged in producing something which has artistic value, and which has real connection with their life. An artist might be content to carve the spoon after he had made it, but even a carved spoon would not help the child much further.

But let us suppose that he is studying the Tudor period in History, and that he sees something of Tudor architecture and furniture, getting to be really interested in the life of those days: might he not then with advantage be encouraged to imitate, in cardboard or wood, some examples of Tudor work—a box of Queen Elizabeth's time, or a model of the good ship *Rose*;[1] or he is studying Physics, and he makes in glass and wood, the apparatus required for measuring and weighing; or he is studying primitive man,[2] and constructs a frame for winding wool, similar to the earliest rude machine employed by our ancestors.

Such things are already being done here and there in schools; and similar "works" could be produced in every school, however poorly equipped with room and apparatus. Good art is not dependent upon great resources, but upon right motive, and sound taste. The art of children *should* be simple, and should be content with limited results; but it should be liberal in spirit, and realistic in the selection of its exercises. Every school should have its workshop, but the "works" there produced should bear marks of artistic handicraft, for the child may now be an artist, even if hereafter he can only call himself an artisan.

Other modes of Manual Training should be treated on similar principles. The garden is perhaps as important an adjunct to the school as the workshop, and as a factor in Equipment, a boy's skill in gardening tools should "pay" quite as well as skill in workshop tools. But this skill should be acquired in correlation with other pursuits, and chiefly with

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[1] *Westward Ho!* Chap. XVI.

[2] On the plans of Professor Dewey's school at Chicago, see *The School and the Child* (Blackie & Son, 1906).

Nature Knowledge; and it should train the young workers, not so much to reap a large harvest, as to care for beauty and order in the work of their own hands.

(c) *Games and Contests.*—The child escapes from the nursery and will assert himself; he begins to enjoy the excitement of warfare and conquest. His recreations henceforth are largely concerned in emulation[1] and strife. Many men will not ride a horse unless they know a fox is in front with whom conclusions can be tried. The term "sport" has been adopted to meet these demands, and implies antagonism between the sportsman and the object of his sport. It may be said that the element of warfare is artificial, and that the sportsman's recreative exercise is imitative (see (*b*) above) of real strife. But, on the contrary, it would seem that a true sportsman is inclined to carry his cheerful sporting spirit into battle and death.[2] Letters from Belmont and the Modder River (Christmas, 1899) show us that English soldiers find war to be very like Rugby football.

Some recreative sports (such as chess and draughts) eliminate the physical element. They can only be completely recreative to those whose daily labour exhausts the physical rather than the mental powers. The whist-player needs fresh air and exercise as well as his evening game.

(d) *Gymnastic Exercises.*—Young people will also enjoy many forms of exercise, which are more elaborate than the simple gambols of a baby, but yet *may* be conducted without the elements either of contest or of imitation—such as Rowing, Swimming, Gymnastics, and all kinds of Physical "Training." It is important to bear in mind that these exercises may involve strained attention, and if so their value for recuperation is largely diminished (see § 2, above), although they may prove valuable to many children in assisting towards self-control. Where they are encouraged in schools, it is often found that the element of contest must be introduced in order to produce energetic effort. Some of these pursuits, especially Swedish Gymnastics, have a special value as remedial exercises for pupils whose physical development has been retarded; as such they have a large field of usefulness, for the body instinctively responds to appropriate exercise, and what, in a first lesson, may be regarded as useless, will soon be taken up spontaneously and in a spirit of real recreation by a patient whose body needs the aid of such athletics.

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[1] W. James, *Talks to Teachers*, p. 49.

[2] Compare the characters in Xenophon's *Cyropædia*.

Military drill, however, is too severe and monotonous to be an effective relaxation: it makes a severe strain upon the attention. It will only be willingly undertaken in schools where the pupils are stimulated to a lively sense of the importance of the task, as a patriotic duty to the country, which needs the aid of Volunteers. School Cadet Corps are excellent institutions in good schools, for they help to maintain a spirit of corporate discipline, and it would be possible, in the regular life of school, to turn out a very large number of well-drilled boys, ready hereafter to serve their country if required. But a school of poor tone cannot maintain a good Cadet Corps, since the self-denial and restraint will not be endured among the young except in an environment favourable to the production of good order and discipline. The present situation in our British Empire makes it likely that heavier calls will be made upon English boys in the future than in the past. It would seem worth while, therefore, to consider the nature of these forms of exercise, so that we may judge as to the possibility of making the school of service in the defence of the Empire.

(*e*) *Rhythmical Exercises.*[1]—In Dancing and Drill the element of Rhythm plays a leading part. The performer is under control, but the pleasure of the rhythm and the time, together with the social element of the exercise, may give a feeling of spontaneity and freshness, which puts the element of control and restraint in the background.

(*f*) Finally, recreative exercise is often sought in pursuits whose *principal* aim is to gain knowledge or skill. The workshop and the laboratory require hands and eyes; the study of Nature ought to take the pupil into the open air. In Germany, the school tour[2] is a recognised means of combining recreation, military marching, and comradeship with the study of Natural History, Architecture, and the Humanities. It is obvious that while these pursuits are helpful in a subordinate way, they cannot fairly be allowed to supply the lack of real relaxation.

§ 13. *Summary.*—This completes our survey of the pursuits from which selection can be made for a school Time-Table. Each of these groups adds some new feature to the life of the pupil, and if any are omitted in any period of school-life, we should say that the principle of harmonious development was being violated. In other words, since the child is body as well as mind, and needs recreation as much as work, provision should be made for the last group; and since the school is a society, and these recreations are of a social character, the school should be responsible, at least in part, for providing them.

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[1] Dalcroze has now taught both musicians and educators how rhythm can be realised by children.

[2] Schulreise. See the article by E. Scholz: "Die Schulreise," u. s. w. (in Rein's *Encyclop. Handbuch der Pädagogik*).

And in the sphere of study, since the pupil is, above all things, a human being, he must study the Humanities; but not these only, for, since he is provided with senses, in a world of sight and sense and beauty around him, the study of Nature must never be set aside. But these two groups will not content him, for he is endowed with a mind which is ever grasping towards the abstract, and he should, from the earliest years, spend a portion of his daily labour on the Abstract Sciences. But he is not only a thinker: as an actor, he must have privilege to express himself in the conventional arts of speech and music; and finally, he must be allowed to use the tools by which he can express himself in the natural arts.

A SCHEME, SHOWING THE RELATIONSHIP BETWEEN THE VARIOUS PURSUITS MENTIONED IN CHAP. III

- Effort or work (mainly *Mental* pursuits).
  - Acquirement of Knowledge.
    - Knowledge derived from intercourse and therefore relating to Mankind :— The Humanities. (History and Literature, including Bible Study; also Geography.) **Group I.**
    - Knowledge derived from sense-experience and therefore relating to the Natural World :—The Biological and non-Biological Sciences, also Geography. **Group II.**
    - Abstracted from these :—The Abstract Sciences, Mathematics and Grammar being the most important in the school. **Group III.**
  - Acquirement of Skill.
    - (*a*) Conventional or Symbolic Arts. (Language, Music, Drama.) **Group IV.**
    - (*b*) Arts of Natural Representation. (Drawing, Modelling, Painting, Carving, etc.) **Group V.**
- Relaxation from Effort:—Recreative. Mainly Physical Occupations :— Simple Activity, Imitative Exercises, or Play; Imitative Arts of Construction; Games or Contests; Gymnastics; Rhythmical Exercises (Exercises only partly Recreative). **Group VI.**

CHAPTER IV

DIFFERENTIATION

No teacher can promote the cause of education until he knows the mode of life for which that education is to prepare his pupil.—JOHN RUSKIN, *Time and Tide*, p. 22 (compare *The Eagle's Nest*, p. 120).

> Now, growing double o'er the Stagirite,
> At least I soil no page with bread and milk,
> Nor crumple, dogsear and deface—boy's way.
> BROWNING, *Development* (*Asolando*, p. 130).

§ 1.—PROVIDED thus with a stock of Material—of branches of Teaching on which our pupils may set to work—we are almost prepared to open school, or at least to draft our Time Table. But, as soon as we come in sight of our pupils, we are embarrassed, for they are of all sizes, and of all ages: they need sorting out into classes before we can go about to teach them. Many text-books on the art of teaching omit these considerations altogether: they take them for granted, or they refer the reader to Codes issued by Government. In one sense they are justified in this reference, for the problem of Differentiation is largely concerned with a branch of Educational Science which lies outside the scope of this volume (see Chapter I, § 4). The varying types of schools which we find at work in different countries are determined largely by political and social considerations, such as fall to be discussed as a chapter in "The Control of Education." And yet we cannot proceed to a discussion of the details of a curriculum unless we know the kind of school and of classes for which we have to provide: we need to understand the special aim[1] of the system of Teaching pursued in those classes. Hence, we find that the rule we laid down above, as to the necessity of treating Aim, Control, Practice in this and in no other order, is sound, and it compels us to step on one side and to treat of a problem which belongs to the sphere of Educational politics. It need hardly be added that we shall avoid the introduction of polemical matter; it will be sufficient for our purpose to take from Chapter II those principles which bear upon Differentiation, and show how they come to our aid in grouping children into various grades or types of schools.[2]

§ 2.—Of these principles the most important is *Growth.* A group of children, even a large number, can be taught together if they are on the same general level of age and attainment: if they differ they must be taught apart, even though the niggardly resources of the public purse may only provide one teacher for all.

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[1] As distinguished from the general aims of Education discussed in Chapter I.

[2] There are, of course, many modes of labelling schools which have no concern with the purpose of this volume. Schools are grouped *administratively*, according to the form of Control to which they are subject, or the source of the financial support (*e.g.* The Return of 1897 on Secondary Schools, prepared by the Director of Inquiries and Reports for the Education Department; also *Report of the Royal Commission on Secondary Education*, vol. i. pp. 136–143). The principles involved in such work have a great interest, both pedagogic and political, but they must not be confused with the analysis here undertaken.

This is the argument for the large school as opposed to the small school: thus, 300 children can be divided into ten sets of thirty, each set being on the same level, and the whole exhibiting a series of grades, ascending in average age from four to fourteen, and in average attainment from the beginning to the end of a Primary school course. We do not need to digress into the problems of organisation and finance here suggested: it is sufficient to add that we assume for the purpose of this volume that the teacher is permitted to devote his attention to one class and one lesson at a time; and that the class, even if homogeneous, is not so large as to prevent him from giving fair attention to every pupil who is in his presence (see above, Chapter I, § 5).

We shall not concern ourselves further with the problem of the size of classes, but are to inquire what are the characteristic features of child-nature at its various periods of Growth, since these features must be our guide in selecting Material for each standard or grade. A Board of Education does not formally concern itself with these features when it prescribes a Code of studies for such grades or standards, but the value of such a Code depends largely upon its implicit recognition of the phenomena of Growth.

The Codes often undertake to prescribe a course of study for each year of school life: we are not under the same obligation, and it will serve us better to seek for the chief features of difference which divide one *period* of school life from another.

This is a more prudent plan of division for our purpose: we cannot lay down any sharp line of demarcation between a child of eight and a child of nine: if, however, we step over three or four years, we readily perceive the stride that has been taken.

But, even after three years, the differences are not so great as to strike the casual observer: adults who are not familiar with children seem satisfied to call the species "boy" or "girl" at any age between infancy and twenty: in fact, the only distinctions popularly recognised are those at about the age of three, when the child has learned to walk and talk, and those at the commencement of adolescence: thereafter the pupil comes gradually to be on a level with the adult.

Here, then, are the two decisive landmarks of division: at the close of infancy, and at the close of boyhood or girlhood: if more are desired, they are to be obtained by personal observation of individual children, or by other scientific methods which have of recent years been promoted by Earl Barnes, Stanley Hall, and other leaders of the "Child-Study" propaganda. Hitherto the most valuable results have been obtained from studies of the period of infancy, but there is sufficient common agreement as to the whole course of development up to puberty to enable us to suggest modes of division for the intervening years. But the reader will only be able to adopt a mode of classification for his own use after he has gained personal experience with groups of children, and compared his observations with those of standard writers.[1]

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[1] An observer, engaged in practical work among children, will find it repay him to prepare some *Form* in which he may

Space does not permit of an extended treatment of these periods of development. It must suffice to give a brief survey of periods under selected titles.

The period of infancy is excluded as lying outside the province of the school, although it by no means lies beyond the sphere of Education, and should not be hastily dismissed from the attention of the teacher. A gardener who waited till summer before he began to notice the growth of his plants would scarcely be accounted wise!

The years between infancy and puberty are commonly divided into two periods—the first we may

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enter his own observations. A simple example is the following:—

Ages.		Physiological (Physical).	Intellect.	Emotion.	Will.
Babyhood	1				
	2				
	3				
Childhood	4				
	5				
	6				
	7				
	8				
	9				
Boyhood (Girlhood)	10				
	11				
	12				
	13				
	14				
	15	Puberty			
Youth	16				
	17				
	18				
	19				
	20				
	21				

(Each of these divisions can be, of course, subdivided.)

call Childhood, concluding at about the ninth year,[1] the second we shall call Boyhood (Girlhood) closing about the fourteenth year: thereupon follows the period of Adolescence, which carries the pupil beyond the school period.

We may again divide the earlier periods into two portions, thus obtaining five periods :—

Early Childhood, 4 to 6 on the average.
Later Childhood, 7 to 9 „
Early Boyhood (Girlhood), 10 to 12 on the average.
Later Boyhood (Girlhood), 13 to 15 „
Adolescence, from 15 on the average.

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[1] It is scarcely necessary to point out that all indications of age are indications of the *average* age of children at the time and in the country with which the writer is concerned. Any single child will be found to vary from this average in many particulars; and the children of different countries vary from each other.

The decision of His Majesty's Judges in the famous Cockerton Case showed that the utmost care is necessary in dealing with age-limits in Education. It is extremely unfortunate that English authorities have been compelled to attach so much importance to limits of age as affecting attendance at school. These limits are useful enough in regulating scholarships or bursaries, but the only right principle of differentiation between *types of schools* is by curriculum, *i.e.* by *range of studies.* We cannot question the acumen of lawyers in interpreting Acts of Parliament, but it certainly seems contrary to common sense to refuse Elementary Education to a person who *for any reason* has failed to become elementarily educated before 15. In earlier days, differentiation by age-limit was pardonable, for those who controlled the school were too ignorant of education to understand any principles less crude and rudimentary: but nowadays (1904), when National Education is handled by statesmen and experts, it ought not to be difficult to adjust the various types of school required by the nation by differentia of Entrance and Leaving Certificates, growing out of Courses of Study. The Code for 1904, together with the Regulations for Secondary Schools, offer a most promising beginning for reform in this direction, and the definitions of the Elementary and Secondary school, along with the exposition of purpose and principle introduced into the Prefatory Memoranda, form a most important and opportune contribution to reform.

The first of these periods coincides with the years spent by a little child in an Infant School or in a Kindergarten. In a subsequent chapter we shall note some of the features of such a child in our discussion of the curriculum of the Kindergarten (Chapter VI, pp. 130 to 133).

In the next period the child commences, in most countries, what is popularly recognised as his "schooling," for his brain has by this time, so the anatomists tell us, fairly settled into permanent shape.[1] He is able to go to and from the school alone, and this independence is in itself a marked feature in the development of self-control. He opens a book, and one task during these three years is to master and to reproduce the symbols of the page. The powers of attention, discrimination, and retention, which enable him to achieve this success with the symbols of language and of number, serve him to make still further progress (if he is so privileged) in the observation of natural phenomena. And his active powers of expression cry out for exercise at every turn. But he is still a child: his impulses are still largely in the direction of dependence and of imitation: he still lives in the realm of fancy: his ideas of time and space are still of the vaguest: his affections and joys are limited to objects about him.

Boyhood presents a different picture. The boy, the girl, do not feel lost when left to their own devices: they exhibit (if normally developed) a keen speculative interest in all that goes on about them: noise, violence, vigour is exhibited in the expression of their perpetual activity. Real thinking begins, although abstraction must still be kept in close alliance with observation. These thoughts, however, tend to dreams, for the boy has no fixed aims for his life. He is self-conscious (girls are often "skittish"), and shrinks from the familiar intercourse with home friends that characterised him as a child. He finds that he is a unit in the centuries of time and in the vastness of space, but he willingly lets the vague images and emotions excited by such thoughts drown themselves in the pleasures or woes of the life of sense.

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[1] "It is a suggestive fact that the greater part of the growth of the brain takes place before any of the formal educational processes have begun, for the mild schooling that occurs before the age of seven or eight years can hardly have much influence."—Donaldson, *The Growth of the Brain*, p. 107.

A few years later, and the marked change of life has come.[1] Often both parents and teachers are astonished at the rapidity with which the change is effected. The youth is now impelled by lively aims for his own life. Schooling may yet do much for him, but only so far as he himself shows readiness to go forward. His own inner life is liable to be jealously concealed from the eyes of others. Very commonly he is distressed with fears, excitements, hopes beyond measure. If his training has been straitly religious, he will now feel the full force of religious emotion, rushing from one extreme to another. The Churches recognise the crisis, and invite the youth to Confirmation, to membership, or some other formal act of surrender. But it is needless to enlarge upon the phenomena that follow upon puberty, for not only the Churches, but all organisations with a propagandist aim study the needs and foibles of young people. Education finds its most difficult but most honourable task in guiding wisely the lives of those who stand on the threshold of adult life.[1]

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[1] Stanley Hall's monumental work on Adolescence (Appletons, 1904) is a standard guide. But for briefer reading Dr. Slaughter's *The Adolescent* (Swan Sonnenschein, 1910) is most readable. For the years before adolescence an article by Stanley Hall in *The Forum*, Sept. 1901, "The Ideal School based on Child Study," is not yet superseded.

These three divisions, then, subdivided into five, will serve as a guide for future chapters both in the treatment of Material and of Method.

In accepting them as divisions, with marked features of contrast, we need only to bear in mind one caution: we must not regard development in the human being as a process of decay or atrophy, in which lower powers are lost and replaced by others; rather we witness the outgrowth of new powers superimposed upon earlier ones. To say, for example, that the human memory is stronger at the age of ten than at the age of twenty is to repeat a formula which has little meaning: the child of ten is certainly quick to take up and retain instruction, for he is like an empty vessel ready to be filled from every fountain; but at twenty the accomplished youth, and at forty, the full-grown man, can still retain all that they need; in the interval, however, they have developed many other marvellous intellectual powers, and these overshadow the earlier acquisition. But there is no decay, for the totality of memories stored in the adult mind far transcend the utmost acquisition of the child.

§ 3.—When the reader contemplates these variations in the type of pupil, the change from infancy to childhood and boyhood (girlhood), and then to adolescence, leading to adult life, he cannot fail to recognise that they afford permanent principles on which types of educational institution must be differentiated. For children,[2] collected in numbers at school, constitute a society wholly different in ways and temperament from adolescents, and these again have their own life, their own ideals, their own needs alike in Government, Guidance, and Teaching, wholly at variance with those of the adult student.

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[1] Cp. reference to Arnold of Rugby, p. 231, below. The present writer may be pardoned for referring to his edition of Arnold's writings (Pitt Press, 1896), in which this central idea of Arnold's pedagogy is brought prominently forward. He constantly described these years as the "dangerous period."

[2] We omit here the Kindergarten or Nursery School, which may fairly be classed as a fourth type, differentiated from Primary (and Preparatory) Education, as much as that is from Secondary or University Education.

Here is the only sound basis for the three[1] fundamental types of institution, found among all civilised nations:—

Primary Education for *children*: managed and carried on by those who are especially familiar with the life of the child before puberty.

Secondary Education, for *pupils* who remain at school beyond the period of childhood: governed and carried on by those who have experience in the life of adolescents.

University Education, for *students*, who are treated largely as adults: governed by University Courts, Councils, and Senates.[2]

We regard these three types as springing out of permanent features in human life, and affecting therefore not only the problems of teaching, but the whole system of national education. A school for "children," if it is to achieve comprehensive educational results, needs a form of external control, a type of teacher, a corporate bond, a discipline, wholly different from that which answers the need of pupils in the Secondary School; and this, again, differs entirely from that suitable for students in the College or University. This factor of Growth, affecting as it does the fundamental aims of Education, underlies all other aspects of Differentiation, and the progress of legislation in definitions and types of school depends upon the apprehension of these distinctions by those who make school law.

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[1] Or four, if we add the Kindergarten.

[2] It will be observed that this volume does not venture beyond the Secondary School, and although the Germans discourse *Ueber Universtäts Pädagogik*, the present writer has no ambition to intrude into so exalted a province. Nevertheless it is as well to recognise here the homogeneity of the *whole* teaching profession, as Mr. Bryce has recently encouraged us to do: p. 354 in *What is Secondary Education?* (see below, pp. 103, 106). Again, no reference is made to *partial* instruction, whether in Continuation or Apprenticeship or Extension Classes. For the purposes of this volume no new questions are raised in these directions, important though they are under other aspects.

It is obviously impossible to fix precisely the limits of age[1] or attainment which should divide the three types, for of necessity there must be a good deal of overlapping. The Universities do not commonly desire to receive students before the age of eighteen or nineteen, but many of the newer Colleges accept students at sixteen; and the greatest diversity (sometimes called "chaos") prevails as to the practice of both Elementary and Secondary Schools in Great Britain.

§ 4. *Inheritance.*—A complete system of schools based on the above principles alone would follow very much the lines of division, which, without any design by authority, have been accepted between the Preparatory Schools of England, the Public Schools which these "feed," and the two ancient English Universities, which, in turn, receive from the Public Schools the majority of their students. But the ease with which this distribution of functions has been accomplished is due to the fact that the homes from which the boys and students come are all on one general level of culture. Hence, at each stage all start from the same standard, not indeed in actual attainment, but in the general circle of ideas and habits gained by inheritance and environment. If, however, by the operations of school law, a number of children, bred in homes where the luxuries of leisure are unknown, were sent into these Preparatory

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[1] As to age, see p. 97, above.

Schools, they could not at first be taught with the others, simply because the home environment has placed them in a wholly different mental atmosphere. It is only the few rare children from such homes who manage, in spite of their environment, to acquire culture, and in time gain the level of University studies, side by side with children from homes of leisure. We are not, by the use of such contrasts, indicating a preference for children of one type or the other. Who, indeed, can say which is the more fortunate? We are only concerned to describe phenomena as they appear; and to include in our description *all* the material facts. Hence our observation of child-nature, as children present themselves at the school doors, suggests a second principle of differentiation based on Inheritance (Chapter II, § 2) :—due *to the culture which the child brings from its home.* No system of public education can rightly ignore the service done by parents who foster true education in the home, and who claim that the school provided for their children shall carry on that education to its proper issue. This is the main reason which justifies the Secondary School in maintaining "Junior Forms" for children under thirteen years of age. These, so far as age alone is concerned, might just as profitably be sent to the Primary School: but their parents know (as teachers, both Primary and Secondary, also know) that the inevitable forces of environment at the present day in the Primary School would endanger the refinement of mind and heart which is often acquired in homes of leisure. This plea is sometimes denounced as anti-social, as opposed to the democratic feeling of the age; and indeed, it may easily be adopted by those who seek to perpetuate the tradition[1] of class distinctions, who would willingly see schools divided, as they once were, according to rules of caste. But the basis of the present argument is solely directed to the prevention of waste—to plead for the preservation of culture wherever it be inherited. The school has no concern with social changes or social ideals.[1] It should not be employed either as a leveller of social distinctions where they exist, or as an upholder of these. It must ignore them exactly as they are now ignored by enlightened public opinion both in civic and in Imperial politics. The teacher's duty is to plead for an organisation of schools adapted to the varying qualities of *children, as he finds them at the present epoch*, so that each type of institution may fulfil its task completely. Hence, this second principle justifies us in placing the entrance age both for Secondary Schools and for Universities sufficiently early.[2]

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[1] Chapter II, § 2.

§ 5. *Equipment.* — These two considerations—firstly, the fundamental distinctions between childhood, boyhood, and adolescence; and secondly, the mind and culture inherited and brought from home by the pupil—have been, in past times, the sole factors of *educational* validity for variation in types of school. Unfortunately many others have arisen to perplex the thoughts of "experts" who labour to bring order out of the chaos of a nation's education. Most of them have no place in this volume, for Class Teaching is not directly affected by the constitution of the authorities who control or finance a school. But there is a third consideration, arising out of the principle of Equipment discussed in Chapter II, which directly affects the Curriculum during the *closing* years of school life, in contrast to the topic of our last paragraph, which was concerned with the *first* years of school. The one was based upon conditions affecting the pupil before he enters school, the other upon conditions which will meet him upon leaving.

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[1] Cp. *Report of Royal Commission on Secondary Education*, pp. 131–133, and Sir J. Fitch in *What is Secondary Education?* p. 199 (Rivingtons, 1899).

[2] Such provision also makes it possible for these institutions to offer an *extended* course of education. It is obvious that no institution can do justice to its pupils unless they can come under its influence during a series of years. It is calculated that the average life of pupils in English Secondary Schools at present is less than three years. How, under such conditions, can we speak of a *course* of education?

We may assume that every type of school has for its chief purpose to impart a "general" education, *i.e.* an education with aims directed to achieve a general preparation in character and disposition, in intelligence and skill for *all* the duties of life. But we have seen[1] that the demand for Equipment presses very closely—especially during the later years of school life; and further, experience has shown that an appropriate choice of occupations during these later years *can* be made, so as to render most powerful aid to preparation for a definite calling in life. Hence, in spite of the continual protest of teachers, allied with many powerful advocates of liberal ideals in education, our schools, or classes in schools, have been divided up, more and more every decade, into types, distinguished by the attention they pay to such choice of studies.[2] This struggle—between the

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[1] Chap. II, § 2.

[2] Cp. *Report of Royal Commission on Secondary Education*, vol. i. pp. 135-6. While acknowledging the immense debt, under which all students of education lie, to this memorable Report, the present writer can only deplore the fatal confusion made in these pages of the Report between Secondary *Education* and Technical *Instruction*.

The Commission in fact only sought to differentiate schools by curricula; and it is singular that many of those concerned most zealously in promoting the interests of Secondary Education ignore the deeper issues involved. Thus the volume claims of liberal culture, and of professional equipment—seems unending, and it has probably attracted more attention, in every country where schools exist, than all other questions in Education put together.[1] For it strikes directly at the first principles of human impulse: it touches on the quick those hidden springs of motive and conduct which reveal a man's heart. Without attempting to labour further on such a mighty argument, we may be ready to admit that both parties to this quarrel can find justification in appeal to the highest ethical and religious ideals;[2] we are inclined rather to seek a compromise which shall satisfy those in either camp who really cherish such ideals and who welcome their attainment even in a new age and in strange company.

It is evident that, from the standpoint of Equipment, the pupil's life, from the time when he first comes under instruction, to the time when he

entitled *What is Secondary Education?* (Rivingtons, 1899), which contains so much of eminent value, answers the fundamental question raised by its title simply by a list of "subjects" (p. 169). These alone are supposed to supply the basis for principles of differentiation!

[1] A useful contribution towards the solution of this problem is offered in "A Plea for Specialism" (*Journal of Education*, July 1895) by George Smith, now Headmaster of Merchiston, Edinburgh). Mr. Smith distinguishes Specialism *Concentrative*, which will "set a boy early to work at that for which he is best fitted, inspire him with an enthusiasm for that work, and prompt him all the while to see that every scrap of knowledge of other sorts that he possesses can be made and must be made to bear on that work"; from Specialism *Exclusive*, "which looks exclusively instead of mainly to one subject, which abstracts in the old stupid way one branch of the tree of knowledge, and carries it off for dissection and analysis, and ends by denying the use, or perhaps even the existence, of the other branches." The whole question is also agitated, with much ability at times, and with great earnestness, in the educational literature of the United States, under the title of "Elective Studies."

[2] See Chap. II, § 2.

is a fully-fledged member of some profession or trade, falls into three stages.

A. General Education, pure and simple, covering the whole period of Childhood, and sometimes the whole period of Boyhood and Girlhood, and in the case of many University students extending even through the period of adolescence. During these years the child is certainly being "equipped" for the future: the elements of language, mathematics, science, art, are the foundations for means of livelihood as well as for the leisure of life. But neither the parents nor the teachers of a pupil need to plan the education during these years with that object.

B. Before the time allotted to schooling comes to a close, a prudent parent or teacher *foresees* that the pupil will ultimately be apprenticed, or entered as a student in some course of professional training, and he therefore inquires whether some kind of *partial* selection or specialisation cannot be arranged, *during the last years of school life*, to lay the foundation for the exclusively technical or professional occupations. Thus, the pupil is set, during these final years, to a course of study containing two elements: (i) liberal studies as a sequel to the studies of earlier years; (ii) special attention to some of these studies, or to other studies now commenced which have a particular bearing on the future career.

The distribution of time between (i) and (ii) may vary greatly in different schools or at different stages of the pupil's career in the same school. The nearer he approaches to the time of leaving, the more he will attend to these special studies.

C. Apprenticeship or Professional Training. The term "Technological"[1] is now becoming popular, to include any kind of instruction given expressly in relation to a trade or profession, whether commercial, technical, or literary. It is, or should be, marked off from A and B as being given apart from the school, and *expressly* associated with the equipment of the pupil for some defined calling in life.

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[1] Compare the new organisation of the Board of Education, South Kensington Branch, in 1900.

So far, then, as curriculum is concerned, the class teaching of such institutions lies outside the scope of this volume: it is only in the sphere of Method that the teachers will find themselves on common ground with the teachers of schools. It is very clear that the distinction between these three periods of a pupil's career is not essentially one of subjects: it is true that certain branches taught in C (*e.g.* Law, Plumbing, Banking) cannot be taught in A or B; but many others may be found in all three groups: (*e.g.* Modern Languages, Chemistry, or Arithmetic). The distinction in curriculum cannot be made by a catalogue of various branches of study, but by giving in detail the *syllabus* of study which is pursued under the title of each branch.

A large number of teachers (and of parents also) still refuse to admit the claim of the period B to any consideration at all. They urge that the best preparation for all callings in life is to give the pupil a general education, as extensive and as thorough as possible: when this is obtained, they would pass him on at once to the barrister's chambers, or to the drawing office or to the workshop, to be supplied with practical experience, helped out by the "Technological" assistance of lectures. But the schools have been compelled to undertake something more: they have been compelled, by the pressure of outside opinion, acting through the various professions and trades. The entrance to these callings is guarded by various examination tests,[1] for which the school is compelled to prepare its pupils, and the period that the pupil spends in specially equipping himself to qualify for such tests is the period indicated in B.[2]

It is true that some of these Entrance Examinations are almost wholly of a general nature, requiring from the candidate simply the evidence of good general education. But every candidate seeks to do more than the minimum: he seeks so to qualify for a future calling as to be able to commence with every possible advantage; and he therefore responds to any encouragement held out by his future calling to specialise a little before he finally parts from school.

It would take us beyond our present range to discuss this topic in detail: we shall assume the standpoint here adopted for *every* type of school, Primary and Secondary, and inquire how far it is possible to plan curricula so as to meet as many needs as possible. Roughly speaking, we find the trades and professions divided into three groups.

(1.) *Manual, unskilled labour.*—Children who leave at or before thirteen usually enter some form of unskilled labour, in the fields, the pits, the factories, or on the streets, or in domestic service. They *may*, after a hard day's work, attend an Evening Continuation School; but it is only children of exceptional energy who are likely to do so.

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[1] The oversight of these will in time to come form one of the most anxious duties of the expert officers of the Board of Education. In Wales they have already claimed the attention of the Central Welsh Board, as an inevitable result of the Welsh Intermediate Education Act.

[2] By organising these Leaving Certificates, for all types of school, more effectively, the Board of Education (in conjunction with the authorities of the professions and trades, and of course with teachers) has done much to make Courses of Study really effective in the schools of Great Britain (Annual Reports of the Teachers' Registration Council since 1915).

Now from this group come the great majority of children attending the ordinary "elementary" school: ninety per cent. of them cease to attend school before the age of fourteen, and, although the occupations in which they hereafter engage are "unskilled," care ought to be taken that the last year or so of their education is devoted to a curriculum which will complete their whole course of study, and serve as some kind of introduction for the life that is to follow (see Chapter IX, below).

Hence the curriculum of the Elementary (which we would prefer to call Primary) School should be divided into two portions :—

A. Standards I. to V. (ages 6 to 11): purely elementary[1] education.

B. Standard VI. and VII. (ages 11 to 13): partly specialised, *i.e.*, planned with the special purpose of adaptation to the future career.

(2) *Skilled artisan labour; service in retail trade; lower grades of office work.*—For these employments children remain at School somewhat longer, often up to fifteen years of age; and since these employments demand more intelligence and skill, the children should secure an education more advanced, and more definite in its curriculum than is possible for the child who leaves before fourteen years of age. This has long been recognised on the Continent: the Höhere Bürgerschule of a German town, or the École Primaire Supérieure in France or Switzerland provides an education directly intended to assist children of promise who are worth raising above the

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[1] The Infant School (Average Age 4 to 6) is here left out of account (see note to p. 100, above), and included with the Primary School.

lowest forms of manual labour. Great Britain is at last imitating this example, and in the Higher Elementary School, established in 1900 by the Board of Education,[1] we have a scheme which, when revised and fully developed, should do much to benefit this large section of the community, and "is highly calculated to have beneficial results on elementary education."[2]

Here, again, we have the period of general education (A), Standards I. to VII. (average age to 13), followed by (B), for two more years, of partially specialised education (see Chapter X, below).

(3) *"Professional" occupations, in law, medicine, teaching, journalism, the Churches, etc.: higher employments in offices and warehouses; in technical and manufacturing industries, etc.*—Pupils who look forward to these careers usually remain at school beyond the age of sixteen, and often continue until eighteen or nineteen; and the schools which receive them have therefore the duty of adapting their curriculum to meet the various needs of pupils intended for all these careers in life. Such schools are called Secondary Schools,[3] in contradistinction to

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[1] Vide Code Chapter VI and Report of Consultative Committee issued by the Board, 1907.

[2] Ipswich School Board Report, 1900.

[3] This sentence only indicates one item in the definition of a Secondary School (see below, and Chapter XI, § 1), but it is the most distinctive from the point of view of curriculum.

"For the purpose of these Regulations, therefore, the term 'Secondary School' will be held to include any Day or Boarding School which offers to each of its scholars, up to and beyond the age of 16, a general education, physical, mental and moral, given through a complete graded course of instruction of wider scope and more advanced degree than that given in Elementary Schools."—From the Regulations for Secondary Schools, Board of Education, 1904, and later.

the Primary (or Elementary) Schools, which limit their curricula to children leaving at the younger periods of life. They educate, perhaps, one-tenth or less of the total non-adult population, but their national importance must be gauged by the future importance of their pupils, rather than by the total attendance.

They also should have a curriculum divided into two portions :—

A. Up to 14 or 15 years of age: a course of "general" education.

B. From 14 to 16, 17, or 18: curricula more or less specialised from year to year in preparation for some career (see Chapter XI.).

This, in barest outline, exhibits the bearing of the doctrine of Equipment in its relation to Differentiation of schools: its importance will be variously estimated according as the reader admits (1) the desirability of utilising the closing years of school life as a preparation for a career; (2) the possibility of framing really effective curricula for this purpose; (3) the validity and permanence of the distinctions we have drawn between various careers commencing on the average at thirteen, fifteen, and seventeen years of age respectively.

§ 6.—We are left, then, with the principles of Growth, Inheritance, and of Equipment, all of them measurable and permanent,[1] fit therefore to be recognised by legislative act and by pedagogic science.[2] If we plan our courses of study on the system of the United States of America,[1] neglecting to provide for the demands of Equipment by differentiation of schools, we should simply propose a succession of schools graded according to the Growth of pupils. In Europe, such a simple classification seems both impossible and unwise. In Great Britain, which shares the democratic sympathies of America, we appear to be endeavouring to reconcile the American system with the principles of Differentiation which prevail in Europe; for, while we offer three types of schools to meet the threefold need of Equipment, we seek, by a constantly increasing provision of bursaries and scholarships, to ensure easy passage from one type of school to the other. Thus, the poor man's child, so far as he can overcome the inevitable disadvantages of environment or inheritance, is welcomed and is encouraged to proceed to higher grades of education, so that, if found fit, he may be equipped for service in the most exalted careers open to industry and talent.

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[1] Permanent, at least, so long as the present social order remains. The distinction between unskilled labour, artisan or middle class employment, and higher professional or technical pursuits, is a permanent feature of all European countries. It is beyond the province of the teacher to discuss the unknown future when this fabric of society may be dissolved.

[2] One other mode of differentiation—according to sex—is of great importance, and we have referred to it incidentally

One caution by way of conclusion: this discussion has been conducted without reference to a number of administrative problems which are, indeed, important, but which are, and must be kept, subordinate to the fundamental question as to the types of schools necessary in a modern State. It is a grave mis-

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(see, *e.g.*, p. 240, Chapter XI), but it does not affect the main topic of this volume.

[1] Even in America, the distinctions between the varying needs of varying types are recognised, as, *e.g.*, in the striking plea for the scientific study of Education among Primary Teachers, in Lange's *Apperception* (p. vii. of De Garmo's Introduction: Isbister & Co., London).

It must further be borne in mind that in America, as in Scotland and in the British Colonies, the plea of Inheritance has much less force than it exerts in England or on the Continent of Europe.

Plan of Types of Schools for National Education.[1]

I. General Primary Stage, Average Ages 3 to 11, including (*a*) Infant School, (*b*) Standards I. to V., and parallel to this, if established at all, are Kindergartens and Preparatory departments of Secondary Schools (extending roughly to the close of Early Boyhood (or Girlhood). **[Chaps. VI, VII, VIII.]**

II. Special Primary Stage, Standards VI. and VII., but specialised in order to anticipate the needs of the lowest forms of industrial occupation (Average Ages 11 to 13). **[Chap. IX.]**

III. Higher Primary or Elementary Schools, consisting of
(*a*) Standards VI. and VII. (Average Ages 11 to 13).
(*b*) Specialised Higher Primary, up to 14 and 15 (specialised to meet the needs of retail trade; higher artisan labour; elementary office work, Lower Civil Service, etc. **[Chap. X.]**

IV. Secondary Schools (Grammar, Intermediate, High Schools), consisting of
(*a*) General Education (Average Ages 11 to 15).
(*b*) Specialised or partially specialised (for one or more years, limited by entrance to a Technical or University College) to meet the needs of various professional, technical, or higher business careers. **[Chap. XI.]**

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[1] The organisation of public schools in Japan offers an interesting comparison with the method of differentiation here suggested.

fortune that this question is so often warped by the conflicting interests of rival authorities (see note to p. 93, above) or rival bodies of teachers. When we have made up our minds what kind of schools we need, and why we need them, we may then, but not till then, consider the sources whence they may secure their revenue, the varieties of local or central authority which should control them, and the qualifications of the teachers who should staff them. Here, as everywhere, let us first bear in mind the needs of the children.[1] The rest can wait.

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[1] See note in Chap. XIV, pp. 373-5, on another side to this problem, which can only be referred to incidentally here, viz. the duty of the State as affecting the repression or development of Genius, and the relation of this factor to the organisation of schools and colleges.

CHAPTER V

A FEW MAXIMS

§ 1.—BEFORE proceeding to the application of our principles, it seems worth while to bring together a few observations, which are not based on distinctive pedagogic principles but are in the nature of rules or maxims *dictated by common-sense.* Every practical art grows into shape under the guidance of such empiric rules, and the abstruser parts of "Theory" are of small use if these homely fruits of experience be neglected. The hints here offered apply only to topics affecting the Curriculum and the Time Table.

The rule of Restraint.

> "*You cannot pour a quart into the pint pot,*"

quoth Richard. A School Authority was recently troubled with the bi-lingual difficulty,[1] and wisely decided to appeal to the parents, asking them by circular if they wished their children to learn the native as well as the alien tongue. Replies in the affirmative were sent in by hundreds. After an interval, further difficulties arose, and the parents were again invited to vote, but were warned this time that, if the two languages were to be learned, *some other branch of study would have to be dropped.* This obvious fact did not seem to have dawned on the parents, and it so affected their minds at this second inquiry as to lead hundreds to reverse their vote! They were accustomed in matters of purchase to expect only a shilling's-worth of goods for the sum of twelve pence, but it had not struck them that time is subject to the same law as money. They were, however, not more careless than others. In how many schools, especially Secondary Schools, is the attempt made, and unhappily with great success, to *appear* to be teaching two or three branches in the time required for one! We have seen, in our discussion of Equipment,[1] how determined is the present age to force every possible study into the Time Table. The result is seen in the almost dishonest devices which teachers and Boards are forced to adopt in order to satisfy the public that the quart *has* succeeded in squeezing inside the pint. Thus, on the Modern Side of a certain Public School, French and German have to be taught, and it takes a boy all his time to learn one of these languages. But then Latin has, it appears, a special value of its own: parents would be grieved to see their sons dropping Latin; so Latin must be poured on the top, and it gets two lessons per week, given to boys who have commonly been shunted to this Modern Side because they made nothing of Latin when taken twice a day! But "Latin" stands in the Time Table and appears in the prospectus, so every one is satisfied.[2] There are certainly thousands of schools at this moment where various branches are taught for a single lesson per week, simply because an ignorant public (said public being a convenient whipping-post) demand that the pupils shall appear to learn the same. The teacher is in the same fix as the doctor whose patients refuse faith in him unless he prescribes a drug: he, however, can dispense coloured water, thereby saving the patient's body at the expense of his own soul; but the teacher is tempted not only to register these studies in a prospectus, but to injure the pupils by plaguing them with all the latest novelties. For there is no limit to the possibilities of new "subjects." Every new Local Authority, every new enthusiast for a special study, be it Engineering or Anglo-Saxon, Sloyd or Electricity, every failure in commercial or political supremacy, brings a new "subject" to enter the brains of unlucky children. That their teachers also have to acquire these is matter for tragedy also; but their lot is in any case desperate. The study of Education has no remedy for this state of things beyond that provided by common-sense and courage.

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[1] See p. 197, below.

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[1] Chapter II, § 2.

[2] This is an exact statement of fact.

§ 2.—*The rule of Sufficiency.*

"*Whatsoever thy hand findeth to do, do it with all thy might.*"

This is the complement of the rule of Restraint. When once a pupil is committed to the pursuit of some new study, reason demands that there should be no stinting in the allowance of time adequate for the purpose. A protest needs to be raised against the rigid mechanism of many Time Tables. The following is by no means an extreme specimen of a schoolboy's scheme of study at the ages of eleven to fourteen in certain schools :—

	First year.	Second year.	Third year.	Total.
Scripture	1	1	1	3
History	2	2	2	6
Literature	2	2	2	6
Geography	2	2	2	6
Grammar	3	2	2	7
Writing	1	1	1	3
French Conversation	1	1	1	3
French Translation	1	1	1	3
French Grammar and Composition	2	2	2	6
Latin	4	4	4	12
Arithmetic	3	3	3	9
Algebra	2	2	2	6
Euclid	2	2	2	6
Shorthand	1	2	2	5
Drawing	2	1	1	4
Drill	1	1	2	4
Chemistry	—	2	2	4
Physics	2	1	—	3
Totals . . .	32	32	32	96

Such a Time Table is so crowded with branches of study as to make it impossible to achieve thorough success in any. For example, one lesson per week in Drawing or Science is bound to spell failure, especially if these pursuits are conducted without relation to other studies. The mind is simply not capable of gaining hold upon a new set of ideas and habits, unless it is allowed to attend closely to them with renewed attention day by day during some months or years.[1] It must act here like the blacksmith when he brings the iron hot on to the anvil. The result *can only be* achieved by rapid repeated strokes. If he pause for rest and change, his labour is wasted.

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[1] As a useful technical term, such a Course of Study, which allows each new study to have special attention for a time. may be described as *Intensive*.

An illustration may be permitted from the current practice of St. Paul's School. The present High Master does not bear the character of being a rash theorist, but in this matter at least his practice breaks happily away from that of most of his contemporaries. If a boy is specially behind, or specially in advance of, his Form, he may be taken for a few weeks entirely out of class-teaching, and placed in "Hall," where he does private work continuously at one or two books, helped as required by a master, making what we may call an "intensive" study for a few weeks of a single branch. In a short space of time a boy will often by this means leap across ground which would otherwise have taken him six months. In another London school, habits of Military Drill are acquired on a similar intensive plan—greatly to the enjoyment of the pupils.

A similar method is often followed by an adult scholar who wishes to acquire German. He knows better than to devote only two lessons a week, with one Home lesson thrown in! That may be all very well for children at school, from whom one expects so little! A man of sense will wait for a favourable opportunity to go abroad, if only for a month, and will prepare himself beforehand by giving every spare moment to this new effort. While abroad he will pass the whole of his time in German society, securing thereby an accumulation of sense-impressions of the foreign tongue, during two hundred hours, which will produce a far more effective result than five hundred hours distributed evenly over twelve months.

Hence this Time Table may be mended at once by adopting the "intensive" plan, even if we do not cut off any of the branches from the Time Table[1] (as we ought to do) :—

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[1] The reader will bear in mind that neither of these Time Tables is offered as examples for good practice. They are simply drafted here to illustrate the extremes of the contrasted methods, reaching the same totals. The latter plan is more complicated in arranging at the outset, but the end achieved compensates for the extra trouble.

	First year.	Second year.	Third year.	Totals (the same as before).
Scripture	1	1	1	3
History Literature Geography [1]	6	6	6	18
Grammar Writing [1]	4	3	3	10
French	—	5	7	12
Latin	7	5	—	12
Arithmetic [1]	5	2	2	9
Algebra	4	2	—	6
Euclid	—	2	4	6
Shorthand	—	—	5	5
Drawing	2	2	—	4
Drill	—	—	4	4
Chemistry	—	4	—	4
Physics	3	—	—	3
(Totals as before).	32	32	32	96

§ 3.—*The rule of Sequence.*

"*Miss Ramoth-Gilead, take Jehoiakim,*
Let Abner by and spot Melchizedek!"[2]

This mysterious fragment, from some fugitive verses by "Q.," may be permitted as an extreme example of the hopelessness of trying to teach the Bible, or anything else, in scraps. The educational "reformers" have often in this matter been led astray by their distrust of "specialists." It is true that the various branches of a Time Table are not the final end of teaching; they are merely, as we have so often noted, a subordinate means to the teaching of the child, who alone is "the subject" of education. Still, when once a branch of study is taken up, it makes a claim to be treated as a separate pursuit which has to be developed in systematic order, with its own line of thought, its own technical terms, correlated as much as you please, but not swamped. At the end of a given period of time a visible result ought to be witnessed. And further, the pupil, as he pursues the study, should have some apprehension of the steps by which he is proceeding, and find a real intellectual interest in recalling the results arrived at in the past, and in anticipating the future programme.

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[1] By grouping these branches together in the Time Table, the teacher (who must, of course, take the same class in all portions of the group) is able to apply the intensive plan at his discretion. For a month he may pursue a theme in History; then he may find it advantageous to spend most of the six weekly lessons in reading Literature; then he may take up a large topic in Political Geography. So with the formal side of Language: separate writing-lessons may only be occasionally required; when they *are* required, four lessons in succession during one week will achieve more than a dozen scattered over a term.

[2] In *Echoes from the Oxford Magazine*, p. 30, *Caliban upon Rudiments* (H. Frowde, 1890).

This, again, is a maxim of common-sense, to be applied with common-sense limitations. But in many schemes of study it is ignored. We have, for example, an art called Geometrical Drawing, promoted by South Kensington, and by the Civil Service Commission for Army Examinations; we have also a theoretical Geometry taught straitly according to the traditions of the elders. Obviously the two have some connection, but this is seldom revealed to the pupil. Euclid's Geometry has, indeed, a logical sequence, but it is not till the pupil has covered the Four Books that he finds it possible to look back over the labyrinth and recognise the sequence of the main topics, Geometry of Parallel Lines, Geometry of the Circle, etc.

The rule must not be pressed to an extreme at the early stage of a new study. All branches of knowledge take their rise in vague accumulations of elementary ideas (gained apart from school instruction), and these must wait upon an appropriate season for classification and formulation. Thus in Mathematics a child's first ideas of number are commenced in the home: there is a regular natural sequence in this beginning of things, but it is not in the power of parent or nurse greatly to control the process; it is only when the child comes to the age of five or six that he can make *formal* progress in the art of counting. When, however, a beginning *is* made, it becomes the teacher's aim to develop Mathematical ideas, right through to Algebra, in *psychological* order. We are careful to say psychological order, because the order best adapted to the mind of the pupil is not often the logical order of the adult mathematician. If, for example, Euclid had planned his Geometry for young people, he would not have given so early a place to the difficult topic of Equality of Triangles, while delaying the simpler themes of Parallel Lines or the Properties of the Circle. But, whether psychological or logical, some settled plan is essential when once the childish mind is able to pursue a settled line of thought.

The same is the case in many schools with Literature, and even with History, where the only sequence of thought permitted is in the chronological order. Even that may be varied, when an Emperor requires his subjects to teach the story backwards, and to commence the narrative with Kaiser Wilhelm II.! The most striking disregard of this rule is shown in the treatment of object-lessons, which were so unwarrantably introduced under the revered name of Pestalozzi, but which are a travesty rather than an illustration of reformed pedagogics. The same disregard of sequence is afforded by the old-style text-books (such as Ollendorff, Ahn, and others of more recent date) for Modern Languages. There is often a sort of sequence in Grammar Forms, but the "Content" is the merest matter of chance. So in the selection of foreign literature for reading: some sequence is attempted as regards difficulty of language, but none in respect of the subject-matter itself.[1]

§ 4.—*The rule of Continuity.*

"A rolling stone gathers no moss."

The rule of Sequence is concerned with the subject-matter of teaching: the rule of Continuity is concerned with the pupil. If success is to be achieved, the process of study must be prolonged: disturbance by changing from one class to another every three months is a grave hindrance. In our Elementary Schools the work of the teacher is made difficult by the possibility of fresh pupils entering the school every Monday morning. In many Secondary Schools, promotions are made at the end of each term: both the Sets and the Forms are reconstituted: a pupil often changes both his teachers and his classmates every three months.[2] In Germany, on the contrary, a class is unbroken, except for minor reasons, from Easter to Easter: a year's programme is devised beforehand, and the class cover the ground of this programme steadily and continuously.[3] The aim of the teacher is not, as in England, to encourage the pupil to push up the school with ambitious eagerness in competition with his fellows, but to ensure that he covers the whole course of study without disturbance. In the succeeding chapters, therefore, we shall plan all courses of study on the understanding that the unit of time in class organisation is the school year. It is scarcely likely, however, that many schools will be prepared to follow this rule until parents and public authorities, as well as teachers, recognise the value of it.

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[1] The series of historical text-books in French issued by A. and C. Black are an attempt at a very desirable reform in this direction.

[2] Parents, no doubt, are partly to blame: they do not consider the advantage of entering and removing their children at the beginning and close of the school year. But the evil can be minimised by careful contrivance. In these matters of organisation our Board of Education also has still much to learn from the long experience of the Central Authorities at Berlin, Paris, Vienna, Leipzig, etc.

[3] There are, of course, exceptions, but this is not the place to discuss them.

SECTION III

THE CURRICULUM FOR EACH PERIOD OF SCHOOL LIFE

CHAPTER VI

THE INFANT SCHOOL (OR KINDERGARTEN)

Kommt, lasset uns unsern Kindern leben !—FROEBEL.
(*After Goethe.*)

When grown hearts throb, it goes scampering
Behind the wall, nor dares peer out at all !—
It is the veriest mouse
That hides in any house—
So wild a thing is any Child-heart !
Child-heart !—mild-heart !
Ho, my little wild heart !—
Come up here to me out of the dark,
Or let me come to you !
—RILEY, *A Child-World.*

§ 1.—ANYONE who writes upon the theory of an art needs to guard himself, and his readers, from time to time against the error of making universal assumptions ; against the attempt to impose absolute rules in defiance of local or individual variations. Neither medicine, nor politics, nor education can lay claim to be exact sciences,[1] and a "system" of Medicine or a system of political government which offers a remedy for every situation arising in practice may at once be rejected as quackery. Hence, when we propose in the following chapters to offer plans of study for various types of schools, we are not venturing to prescribe detailed syllabuses which can be copied off the reel into a school Time Table: all we can attempt to do, all we have a right to do, is to offer examples showing how the principles of Chapter II can be applied to the pursuits classified in Chapter III.

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[1] *Vide* Preface

The school is a living, changing society, and a good scheme of study must be subject to change and growth: the success of any given plan will depend, not only upon the soundness of its scientific basis, but upon the circumstances of local environment, the idiosyncrasies of the teachers and the personality of the pupils. Hence the folly of those who try to import, neck and crop, a foreign system of teaching. The Germans, after the great wars, inspired by Vater Jahn, introduced "Turnen" (Gymnastic exercises) into their schools, and a very excellent reform this proved to be—for them at that time. But if English teachers were to look for similar benefits by setting English boys to practise on parallel bars and the like for two regular half-hours week by week, they would be greatly disappointed; and even if drill from Sweden were substituted for drill from Sachsen, the result would still be disappointing. We must prescribe for children's mental diet as a wise physician prescribes for their diet and clothing. He knows his theory, he has his own ideals of physical development, but he keeps these in their place. The child must be content with the natural food of the country, avoiding only what is unwholesome. He must have plenty of variety, not omitting fruit, milk, and sweet foods, which please the palate. Appetite must be restrained, but not coerced. The state of the market and of the parent's pocket must also be considered. As to clothing, no doubt the ideal condition would be—flannels all day long in the open air. But then the child has to grow up as a member of society, and must learn to submit to conventions: hence, a sacrifice must be made to conformity.

So it is in the school. A theoretical curriculum would abolish spelling and the English weights and measures; it would, perhaps, denounce the inheritance of Babel, and refuse to let a child waste time in acquiring foreign tongues: it would at once compound a complete list of pursuits, which would suit all children in all places, calculated, if universally adopted, to expedite the millennium by many centuries. Such plans for Education have been produced time out of mind, and are still being published; and many educational reformers, of real merit, have thus given play to their imagination, writing down the ambitions of a visionary, where they should have been content with the more modest record of experience. Whatever is proposed, therefore, in the following chapters is to be taken as merely by way of example and illustration; we are passing from the general principles of theory, to the particular details of practice, and the nearer we approach to daily routine, the more heedful must we be to avoid the dogmatism of the chair and of the text-book. The teacher himself is compelled to adopt a decisive plan of action, and every school must at each period of its career be controlled by a fixed plan of operations, accepted by all concerned: but this practical necessity for coherence and dogmatic system in routine, makes it all the more necessary for the student of education, when away from his pupils, to keep an open mind.

§ 2. *Early Childhood* (*the Kindergarten Stage*).—It has almost come to be accepted as an axiom that everything labelled Froebelian or Kindergarten is sound pedagogy. This popular opinion is an excellent witness to the great services rendered by Froebel, but it is unfortunate that so many people, not only of the laity, but teachers also, accept the Kindergarten shibboleth without taking the trouble to study the system in detail. The final value of Froebel, as of his master Pestalozzi, is to be found rather in the spirit of his work than in the particular devices which he produced. To allow young teachers nowadays to copy the faulty system of Geometrical Drawing called by Froebel's name is to perpetuate a fetish.

It is worth while to utter a word of warning against the abuses which abound, especially in England, under the shield of Froebel's name. The best disciples of Froebel, such as, *e.g.*, Madame Michaelis, the founder of the Froebel Institute, recognise that both his psychology and his method were imperfect, and welcome the fruits of study in other fields But unfortunately they are exceptions. The majority of Froebelians continue the well-worn path of Gifts and Occupations, studying the "system," under the orders of the National Froebel Union, as if *The Education of Man* were a sacred text. Thus once more do we build the sepulchres of those whom our fathers stoned. Fortunately, other disciples of Froebel act with more freedom and are more worthy, if they so desire, to be called by his name. Among such may be mentioned—the Froebel-Pestalozzi House in Berlin (an offshoot of this has now been established in London under the auspices of the Sesame Club), Ebenezer Cooke (particularly in connection with Art and Nature Study) in London, Professor Dewey, Wilbur Jackman, and other teachers in the Chicago and Columbia Universities.

In Germany the influence of Froebel has been small, and the problems of teaching young children have been mainly taken up, practically and experimentally, by the Herbartians, who, like the Froebelians, trace their original inspiration to Pestalozzi.

The Practice School conducted by Professor Rein in the University of Jena still offers, as it has done for many years past, the chief field of research in Germany so far as the teaching of young children is concerned. It is not too much to assert that a student of these topics may learn at Jena under Rein, and at Chicago, in the Institute of Education connected with its University, the best that has been offered in recent years as regards the teaching of young children.

Only a few lines are necessary to sketch the broad elements of Froebel's teaching. Taking the child as our guide, we must (1) recognise that he is already a social being (Chapter II § 9): his mother is still the centre of his emotional life, but already he is glad to join playmates, and hence he can be put with others to share a common social experience.

(2) This active emotional life must have full play. The restraints of "school" are impossible. He is ready to drink in knowledge at every pore, but he can only do this in his own noisy, excitable fashion. Check him too much by nagging, and his powers of apperception are inhibited by distressful feelings, which act all the more forcibly if repressed.

(3) He is supremely an *observer*, with all his senses, of the Natural world. Hence his education must at every turn provide concrete material for eyes and ears and fingers. All the common trivial features of the daily round, which to us seem so tedious, are novel to him. Colour, motion, sound, let him have them. Of course, it is for us to choose whether we select material which is vulgar and degrading, or noble and uplifting; and in our choice lies the possibility of training him to care for what is ennobling. But broad, simple, decisive impressions he must have.

(4) Let every bit of knowledge be put to use. He hears a story, and burns to tell it again: if he tells it and omits a single thread, how quickly the rest will pounce upon him! Then he will act the

story, and sing a song about it. He will paint a picture of the flower that was carried by the beautiful fairy, and he will search for the flower in the garden, learning all he can about its root and its leaves. While doing this he will commence arithmetic, for there are six petals, and it is better to count in petals to-day and in bricks to-morrow rather than to turn the fingers into a counting-machine.

(5) Let him only form abstract ideas, or attempt formal, technical exercises, so far as he is inclined to do so, spontaneously. If you seek to "teach" them to him and at him, he will not learn. If he is slow at abstraction, let him be slow, and feed him all the more steadily with concrete material.

In other words, delay the "common school subjects"—reading, writing, arithmetic—much longer than is customary. These are not native spontaneous interests to the child: they are acquired interests,[1] just as much as a taste for beer is an acquired taste. Mothers are sometimes proud of a child because it likes reading or "doing sums" at an abnormally early age; but this precocity is no credit either to parent or child. It may be the consequence of stifling more natural tendencies in the little one. There is abundance of time. For all necessary uses, either in equipment or culture, the child does not yet require skill in reading, writing, or arithmetic. We are not rearing hot-house plants for exhibition, but plants which wait upon the seasons. On that famous hillside in Thüringen where Froebel first thought of the happy title "Kindergarten," there are no stoves or glass-houses, but the winds of the mountains, the summer sun, the winter frost, all play their part in the gardens where child and flower bloom side by side.

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[1] Note to p. 38, above.

(6) The selection of material, no less than the method of treatment, must be chosen on *the child's plane*;[1] his circle of ideas and activities range round the life of home and neighbourhood. These, therefore, must serve as the starting-point for the school.

(7) And, finally, this child is most strikingly differentiated from his later self by his life of play. We have seen already (Chapter III, § 12) that the play is essentially imitation, and while in the adult the act of imitation is conscious, in the young child it is spontaneous and unconscious; it is, indeed, the true self of the child. He *lives into* the life of those about him; and cannot do aught else. All motives to action arise from this one instinct—to act the life of others. It is, then, an abuse of terms to speak of a young child as "loving" play: rather we must assert that everything he does partakes of the nature of play; and his occupations at school must therefore conform to this attitude.

§ 3.—It will be seen that these doctrines of the Kindergarten are merely special applications, for a particular period of child life, of the general principles of growth, correlation, child-study which we discussed in Chapter III. And we must emphasise the distinction there made between principles based upon Equipment and Tradition (§ 2) and those which appeal to the opposite principle—the nature of the child.

All that a young child can learn of the need for livelihood, and of the greatness of his human inheritance, will come to him by wholly unconscious processes: any attempt to bring them within the realm of his consciousness ends in disaster. He simply cannot understand you, and if the Kindergarten pretends to do anything at all towards instruction in the common school subjects, it is making a false pretence. What it can and should do, is to direct the play of a group of children so wisely and happily, that, when the next stage of education is begun, the children may be ready to do their part.

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[1] Dewey, *The School and the Child*, p. 48.

Some parents will be disposed to demur to this conclusion: why should we pay the Kindergarten fee (it is too often in this commercial age a question of fee, at bottom!) for so trivial a matter as the direction of play?

The reply need hardly be printed: since your child is at present solely a playmate, he must be educated as such at this stage; *if you care for his life*, for his development from seed to flower, you must attend to the seed-time as much as to the later stages.

§ 4.—What, then, on a basis of such principles, is to be the curriculum of the Kindergarten?

We have seen[1] that, with young children, we are in a position to give special weight to the principle of Concentration. Indeed, unless the Kindergarten teacher *does* create these bonds of association, no real progress is possible. Hence, a good teacher will always select, week by week, some story or occupation involving a topic of real every-day interest, and will gather the other pursuits around this.

Thus, it is winter-time; spring has not yet come; but we have met again after the Christmas holidays, and, when school has started, we go once more to look at our garden, and see whether, even at this dreary time, anything is peeping above the ground. "Why, yes!" "Oh! see!" "How pretty!" "Here are dainty white snowdrops already!"

And so a theme is supplied. In itself it is a purely natural phenomenon—nothing more; but to these little bairns, it means much more; for *their* tool dug the garden, and *their* hands planted the bulbs:—those funny little round balls, about which they heard such a fine story from their teacher last October.

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[1] Chapter II, § 7.

And now they have their reward. "Oh, please, may I take one and paint it?" Forthwith an object is supplied for a painting lesson; and since they find that they cannot paint even a snowdrop without some technical skill, they gladly take a lesson or two by way of first steps in Brush-work.[1] When the painting lesson is over, one little fellow wants to play with his bricks, and so they discuss what they shall "build" with their Third Gift. They soon decide, with the teacher's help, to "build" the fence round their garden. And instead of the tedious and useless paper-folding "occupations," which are a part of the Froebel fetish, we may find it possible, even with these little children, to cultivate the decorative arts: they may trace the snowdrop pattern on flannel or cardboard, and then cut it out to stitch or paste on to darker material, serving thus as a rug or tablecloth, to please mother at home as something of service to her. Taste on the teacher's part quickly develops appreciation for simple forms of beauty among her class.

But these Gifts and Occupations do not satisfy their whole nature. "*Please*, tell us a story," and soon they are sitting in breathless silence while the story of the Fight between Winter and Spring is told to them, and they hear how it happened that the tiny snowdrop is allowed to come, long before Winter has finished with his sleet and snow. And since all children who hear a story like to tell it again, more than one lesson in "Composition" is supplied. If these children, in later years, will only reproduce what they are told as faithfully as they do this story, they will certainly achieve most remarkable results in examinations!

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[1] Brush-work, among artists, would be called Water-brush. The materials used are similar in style to those employed in much Japanese painting.

And expression in song will not linger far behind. Tennyson wrote a charming little verse which will exactly serve our purpose—

> Many, many welcomes,
> February, fair maid!

Or we may choose a song, "The Snow-bell," which can be acted as a Kindergarten "Game."[1]

> Little white snowdrop,
> Just waking up.

The bell of the snowdrop is the signal which rings to wake up all the other flowers of spring-time.

Thus we have covered most of the Groups of school pursuits which any scheme of liberal education should include. Arithmetic will also have a place. These little ones are only commencing the simplest operations of number, covering the digits from 1 to 10.[2] The snowdrop number is 6; and we shall find our children able by means of these petals to think in numbers with a facility which would be absolutely impossible apart from the concrete interest. Having commenced with the petals, they can proceed to realise six with the fingers, with the bricks, or with the Sonnenschein cubes. They will even begin to reckon the six days of the week, and the brightest among them will begin to gain a notion of the number six apart from objects. But the teacher will make no effort to force such abstract ideas over the threshold of consciousness.

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[1] See Chapter III, § 12 (*b*).

[2] See *Suggestions for Teachers*, published by the Board of Education, Appendix I., *Schemes for Arithmetic*, and Chapter V.

It is scarcely necessary to treat separately of Physical Recreation (Chapter III, § 12) for the whole atmosphere of the Kindergarten is one of physical activity, and the snow-bell play has been specially planned to give exercise to the whole body. But once a week, at any rate, the children should get right away from the class-room, otherwise both teacher and children become too "schooly." The motive for a walk is obvious: we must go out to hunt for snowdrops. Let us hope that there is a wood within reach where we may see the snow-bell peeping, and where we may not be warned away by some dreadful notice-board, "Trespassers will be prosecuted"! Failing that, there will surely be a public park; and nowadays our County Councillors are beginning to understand that the flower-beds of a park should be largely planned with a view to the needs of children and students.

Thus a week passes away, quickly. The succeeding weeks will all be treated in a similar spirit. A wise teacher does not leave the selection of topics, week by week, to chance, but decides upon some *series* of appropriate themes, which shall lead the child to connect each episode in its Kindergarten life with that of the preceding week, as well as of earlier days. Thus the bulbs of October return to his notice in the snowdrop of February.

The following is an example of the way in which a scheme of topics, based upon the seasons and other incidents of the year, may be planned:—

First Week: The May Queen.

Second Week: Spring's Workers—Sprinkle, Bluster, and Bright (the waking of the daisy flower).

Third Week: The story of the sunbeams (describing various journeys made by a little sunbeam on a morning in early summer).

Fourth Week: The town mouse and the field mouse (animals as well as plants must be watched and followed).

Fifth Week: Mrs. Cluck (the children must, during the week, really see a hen and chickens !).

Such a series of topics, centering largely round the natural world, succeeds in absorbing the child's interest, but the critic might fairly allege that it does not satisfy the principle of Concentration, which should find a centre for the curriculum in *human* interest and story. But this element of human interest really *is* supplied by the circumstances under which the material has been selected: it is the child's own garden wherein these flowers grow. The wind and the snow are not treated as matters of Physiography, but as friendly agents taking their part in the play of the Kindergarten. If the play is fanciful, well, the child lives in a world of fancy. To urge the introduction of the Humanities at such an early age in any more formal fashion is a violence to the child's nature. Humanity to him consists of home and of school, with its garden and pets : these to him are Nature and Man in one.

Many teachers of the young, however, are not contented with this simple mode of recognising the supremacy of "human" interests in the young child. They urge that "the child's imagination must be cultivated" by the telling of fairy stories, by idealising the world of animal and plant life ; and they appeal to the traditional delight with which children of all time (and shall we not say, of all periods of life ?) have revelled in myth and fairy tale.[1]

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[1] *The Pedagogy of Myth* (*Pedagogical Seminary*, June, 1901) gives an able account of this topic, and useful reference to the literature, such as Ruskin, *Queen of the Air*, D'Ooge, *Helps to the Study of Classical Mythology*, and the Herbartian

We may agree to all this, and yet be unwilling to *replace* the homely story and occupation, centering round the life of the child, by fairy tales. Surely the fairy tale is not staple food, but luxury: the myth was the romance of primitive ages, and it serves the same purpose that romantic literature serves in our age. We admit that the novel (see p. 417, below) has a place in the curriculum of older children, but only a subordinate place: and it scarcely seems wise to feed little ones on myth and fairy tale as a staple diet. We are too ready to be caught by psychological clap-trap about the cultivation of the imagination. There is no danger here of neglecting the faculty, but it is very easy for a zealous Kindergartner to fill the child's imagination with ideas quite beyond the normal range, and thus to make a dangerous breach between inner thought and daily life. If the myth and the fairy tale is treated *as* a luxury, as an accessory to the regular course of Kindergarten life, it will be all the better appreciated. The child from a cultivated home, who finds these and other luxuries in the home, does not need them in the school: whereas the gutter child may be offered such fare more freely, for the school must supply for him the lack of home influence. Some such considerations as these have led Professor Dewey, in his school at the University of Chicago, to give a very subordinate place to stories, and to centre the child's school life round practical occupations.[1]

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writers. The writer sums up admirably the method to be pursued in placing the romantic literature of childhood before children.

[1] "The simple cooking, dish-washing, dusting, etc., which the children do are no more prosaic or utilitarian to them than would be, say, the game of the Five Knights."—Dewey's *The School and the Child*, p. 54.

§ 5. *Hints on Kindergarten Practice.*—Any one who has watched, even for a consecutive half-hour, the life of a young child will recognise the impossibility of aiming at "order" in the sense in which the word is understood among older children. The necessity for perpetual physical motion, for perpetual change of thought and feeling, make it inevitable that the child, if he is to grow according to his nature, must be, in a sense, disorderly. Hence the inevitable misfortune of the poor man's child: at home there is little room for him even on the streets; and at school, he must be repressed with thirty, forty, or fifty others, since a single teacher can only control the whole crowd, if each is subject to mechanical restraint. But, in the ordinary Kindergarten, where the class is small, and where, if necessary, it may be subdivided by the assistance of student teachers, there is no reason for repression. This, however, does not imply that the little bairns will be constantly interrupting and interfering with the business in hand. On the contrary, they are ready to respond to control, if that control be adapted to their intelligence. Thus, they will be perfectly mute while the story is told, if the teacher is really a story-teller. The story, indeed, should not on any account be interrupted: the teacher should not herself interrupt with questions or other excursions into by-paths: she must not destroy the æsthetic picture in the child's mind.[1] The art of story-telling relies upon the possibility of both narrator and hearer forgetting themselves in the images. Voice, gesture, action will all come appropriately and spontaneously as teacher and children fly away to the happy adventures of plant and bird and beast. This is, indeed, almost a lost art since Caxton banished the balladist and story-teller from court and hall: but it may be revived in the Kindergarten. Now, as then, the listeners will remember the story, and insist upon it being reproduced *verbatim.* And the homeliness of the *mise en scène* will not detract at all from the strength of the impression: on the contrary, the reality of the experience intensifies the interest of the narrative. They are *our* snowdrops, planted by us last October, which have ended the strife between Winter and Spring: *our* winds, indeed, that Æolus has let out of his bag: and how they blow round our windows when we go to bed on a stormy night!

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[1] Compare Rein on "Darstellender Unterricht" in *Das erste Schuljahr*, Seite 121 u. s. w.

But when the story *is* ended, the listeners are not likely to be silent: they will buzz with talk like a village congregation let loose from church! And the little community will be brought to order again, not by "discipline," but by a new occupation. The skill of the teacher will be discerned in the foresight with which she provides material, all ready to hand, suitable and correlated, without delay or distraction. If, when that is done, some of her charges are still "naughty," she will look to the temperature and the ventilation, before relying on the doctrine of original sin.

As in Government,[1] so in Guidance[1]: the teacher should avoid too great interference with the child's personality. It would take us beyond the scope of this book to discuss the problem of Guidance in any detail, but it may be taken as a universal rule that any signs of affection, of personal intimacy between teacher and taught should *spring from the child alone*, should never under any pretext be sought for or stimulated by the teacher. True, the little child will certainly display sentiment—how can it do otherwise? and to repulse such manifestation by studied coldness is professional mannerism of the worst kind: on the other hand, the teacher is bound to refrain from "Schwärmerei," from any attempt to replace the bond between teacher and taught by a personal and particular sentiment. Such behaviour always leads to favouritism—that is, to injustice.[1]

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[1] For the phraseology here used, see Chap. I.

The Time Table.—An error to which schools of all kinds are prone has shown itself in an aggravated form in many Kindergartens: a violation of the rules of Restraint and Sufficiency discussed in Chap. V. Every art practised by a child should be repeated at least thrice every week: if possible, once every day. It is extraordinary to observe how over-pressure has invaded even the instruction of infants. The following is a list of the "subjects" which many teachers conceive it necessary to introduce into a Kindergarten Time Table: Story, Nature-work, Brush-work, Freehand Drawing, Chequer Drawing, Singing, Gift, Tablets, Sticks, Paper-folding, Paper-cutting, Pasting, Clay Modelling, Reading, Writing, Number, Games—all in one week!

This obviously will not do: we must rigorously cut down the list to a few representative pursuits, and feel no qualms that we are violating Froebel's gospel, because some of the customary occupations are omitted.

Now, since twenty minutes must be given to each lesson,[2] and an interval allowed for recreation, the teacher has only time for six lessons every day, of which four must be occupied with (1) the story, or repetition of the same, or with singing, (2) number, (3) drawing or other art work, (4) Kindergarten play or song. There remain two lessons in the daily Time Table, and these should surely be taken up mainly with practical occupations.

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[1] Compare Chap. XVI, p. 390.

[2] Some need half-an-hour; for others fifteen minutes is enough.

Concentration.—We have insisted sufficiently upon the importance of associating the whole week's occupations round some central interest: it may be as well to warn against the possibility of making a new fetish of the theory of Concentration. It will often be difficult, especially when teachers are inexperienced, to find links of association: if they cannot be found to hand, they must not be artificially contrived. Such exercises of perverted ingenuity bring theories of Education into ridicule. And some pursuits necessary to the child cannot by any ingenuity be brought into the circle: such are the mechanical exercises necessary for training the sense-organs. Voice exercises, rhythmical exercises, muscular exercises should be commenced, even with the youngest, and it is folly to try and pretend a fanciful motive for them: the child will take a sufficient delight in the exercise if not too prolonged, and no further end need be suggested. A mechanical exercise is a natural relief, to children as to adults, from the intenser forms of mental excitement, and should be so treated.

The danger here indicated is a very real one. The superficial "reformer" who believes that lessons must at all costs be made "interesting" (see Chap. III, § 5) becomes a veritable nuisance to little children; although the object-lessons and model-lessons which he prepares so carefully be regarded by his fellow-teachers as perfect. Thus, in a recent publication of lessons on the Tonic Sol-fa,[1] the teacher "tells a story" (which is no story at all, as the children soon discover) about "the *doh*-bird, the *soh*-bird, and the *me*-bird." The birds do nothing, but the teacher draws some lines to represent their cages! Then one child is to "stand firmly on the floor, to represent the doh-bird, another on the chair, another on a table." They are not to sing about these birds or bird-cages, but to think of them while singing something else! Such devices are the stock-in-trade of teachers who do not know the child's mind, but have made a superficial acquaintance with the cant of pedagogic lectures.

§ 6. *Results of Kindergarten Life.*—Looking back on some three years of life spent, so far as five mornings per week are concerned, in a good Kindergarten, what may we expect to find attained for the child? A careful observer of children's ways ought to be able to trace definite effects after the lapse of these years, and should be able to distinguish those due to the home environment from those produced by the calculated efforts of the teacher.

First and foremost, the child has been *humanised*, by being brought into pleasant environment with companions of his own age:[2] this is a feature of character, exhibiting itself all through school life, which can best be studied by contrasting school children with those who have been deprived of school society. Obviously the possible vices of the school society, as well as its virtues, may infect a child: hence the necessity for control and guidance by teachers. No fear of such dangers can, however, prevent us from recognising the need for companionship, as the only means of preventing the vices which spring from isolation.

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[1] *Child Life*, October, 1900.

[2] We cannot stray far from the topic of this book to discuss the social aspect of school life (see Chap. I, p. 15), but parents still ignore the child's dependence on his fellows. Men have their clubs, and women their afternoon tea, but the child?—has his governess and should be contented! (All this applies rightly to the small classes of fee-paying Kindergartens, but what of the huge numbers in the infant classes of many city schools? The social benefit here is doubtful. The little ones do not prosper in a crowd.

Such results belong rather to the sphere of Guidance, and are mentioned here merely by way of reminder. In respect of Teaching, the child will have received little positive knowledge which will survive to later years, but a ferment of interest will have been set up, which will greatly smooth the course of acquisition in time to come.

Humanities.—Connected story and narrative in oral form have become familiar. The life of father, mother, of the animal and plant world has been idealised. Little of this can find conscious expression, but it none the less widens the mental horizon of the child, gives play to the fancy (sometimes, indeed, far too liberally!), and deepens the strength of sentiment.

Nature Knowledge.—The child's own tendency to touch and handle and see all about and around, is directed on a continuous scheme, and it is the evidence from this quarter that chiefly impresses amateurs. They find Kindergarten children so intelligent and lively in their talk about birds, beasts, and fishes. As yet, there is no formal knowledge—not even classification, beyond a very rudimentary sort: but the total of isolated facts, about pets which the child helps to feed, or about the school garden, may be large indeed.

Mathematics.—An intelligent child apart from school will learn to use the first few figures at home without positive instruction: the Kindergarten does not achieve much more, but it makes the knowledge more certain and methodical: the processes of adding and subtracting are constantly practised step by step with concrete material until they become a part of the mental habit. In Geometry, more is sometimes achieved than would appear to be necessary: Froebel had a pronounced bias in favour of occupations for children which involve Geometrical ideas, and accordingly, his followers introduce children to Tablet-laying, Paper-folding, and other pursuits which give them a precocious acquaintance with point, line, surface and solid, many years before they can put their knowledge to use (Chap. XIII, § 5).

Arts of Expression.—Progress in the use of language is witnessed as a part of the progress all along the line. It is much too early for language lessons, but a store of words is acquired, and a correct ear for the pronunciation of these, which are the preliminary to all future progress in the use either of the mother tongue or of foreign languages. The same applies to music. He who is not permitted to hear and imitate singing in early childhood can never make up adequately for lost time. It is only by the constant repetition of musical tones heard in song that the child learns to distinguish note from note: this can be done at four and five years of age as well as afterwards, even though the little one be unable adequately to reproduce what is heard. If mothers and teachers would only sing *to* their children in babyhood and childhood, they would hear a wonderful echo of song from these same children after many years.

Arts of Representation.—It is in drawing that the evident results of teaching can be most quickly witnessed.[1] If children are permitted to have a large

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[1] "The Way Young Children Think: a Study of their Pictures," by Earl Barnes (in *Child Life*, p. 120, June, 1898).

"blackboard" of cloth[1] pinned on a wall and a box of coloured chalks to play with, they will soon begin to imitate their teachers in drawing: they will tell the story of their own life, and the stories learnt in the schoolroom with wonderful fidelity: fidelity, that is, not to the canons of adult art, but to the details of appearance and action which have caught their fancy. Here, as in music, if we wish to see our sons and daughters capable of sympathy with the fine arts, they must be given the opportunity in these years when chalk and paints, bricks and clay, are the means of expression most natural and delightful to them.

Few parents even yet consider that these results are worth paying for: hence, teachers of little children are tempted to produce other results which parents can appreciate—acrobatic performances for exhibition: they must produce pretty songs to be sung at an entertainment: with musical drill adapted to platform show. Thus, misguided parents are pleased; and children are led to a belief that life is show, and that the reward of industry lies in the clapping of hands. Or, since the British public expects solid value for its money, a child is put to reading and writing before it has learned to hear and to talk; to "do sums" before it is familiar with elementary ideas of number. Such premature stimulus deadens the intellectual freshness of young life, and keeps alive the old heresy, that school is a dreary wilderness from which there is no refuge until one is "grown up." Deliverance, alike for teacher and parent, can only be found by constantly observing the life and ways of children.

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[1] The common American cloth will serve the purpose: but Grayson's blackboard material is better.

CHAPTER VII

LATER CHILDHOOD

Shades of the prison house begin to close
Upon the growing Boy.
—WORDSWORTH.

The child takes his nourishment from the tale of heroism as naturally as he takes milk.—J. JAY CHAPMAN, "The Unity of Human Nature" (in *The International Journal of Ethics*, January, 1901).

The primary business of the school is to train children in co-operative and mutually helpful living; to foster in them the consciousness of mutual interdependence, and to help them practically in making the adjustments that will carry this spirit into overt deeds.

The primary root of all educative activity is in the instinctive, impulsive attitudes of the child, and not in the presentation and application of external material.—JOHN DEWEY, on "Froebel" (in *The Elementary School Record*, p. 143).

§ 1. *Features of the Growing Child.*—We now enter upon what is still in popular opinion the commencement of schooling. The child is now capable of learning something useful—something "that he will not forget." It is recognised that his powers are thus far developed, and hence opportunity is taken to get the child ready, on the principles of Equipment (Chap. II, § 2), for the next stages of school life, and for the ultimate ends of adult life.

The student of Education observes this development, but, instead of seizing upon it with haste as a means for anticipating future needs, he seeks first of all to discover what pursuits are congenial and natural to the child at this stage. The demand of Equipment for some years to come may still be kept subordinate to the demands of Child-Nature.

(1) The first superficial observation of change is that the child can now *go by himself* to and from school.[1] He plays on his own account with his comrades in the playground (or in the street if you will let him). Just as he steps from infancy to childhood when he can walk to school, so we may divide these two periods of childhood at the time when he can, and should, be trusted with the independence implied by going somewhat alone in the streets.

He thus takes another stage in detachment from the family, and begins to establish bonds of sympathy in at least two important directions: the local environment, street, village, city, as the case may be, and the school society of comrades and teachers. More than that, he takes a marked step in the development of the mental Ego, if the reader cares thus to view the process. Formerly he was only capable of butterfly thoughts and activities, changing rapidly from day to day and week to week: now he grows capable of sustained interest reaching from one week to another in a continuous series. All the educational reformers, from Herbart to Dewey, when they are also psychologists, seize upon this as a point of capital importance.

Here it is worth noting how very much has been done during the last twenty years to improve the general elementary instruction of little children. At the same time the vast literature on the subject affords evidence enough of the survival in many quarters of the same antiquated routine that satisfied the profession—and the public—fifty years ago.

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[1] Chap. IV, p. 98.

Two papers kept on file by the present writer may illustrate the situation.

(1) "Lessons before School," by Mr. Somervell of Eton, an address to the Parents' National Education Union (*Journal of Education*, December, 1894). The views of Mr. Somervell by no means coincide with the system of this book, but they give an excellent example of the progressive ideas on the teaching of young children now current among teachers who think. The following passage is helpful:—

"There is, of course, a danger inseparable from this way of talking about memory, understanding, imagination, and so forth—the danger of confounding our analysis of the mental powers with the human mind itself. The mind is not a bundle of faculties acting independently, but an organic unity. These so-called faculties, and, indeed, the human mind itself, are only convenient abstractions, functions, or specifications of a whole mysterious personality. And this distinction between looking at the mind as a unity and looking at it as a bundle of faculties is not merely of speculative interest, though I can only hint at the ways in which it might be followed out. First, it explains to us the impossibility of training one faculty, as we call it, alone, without influencing the rest. I say advisedly: 'without influencing' the rest; not, observe, 'without developing' the rest. Let me expand this a little. We teach a child a poem or hymn. We want to accustom him to remember, to train his memory. But understanding, observation, and imagination are present at the lesson. You cannot put them to sleep while you train the memory. They are there, and will get either good or harm from the lesson. If you see that the sense is made clear, that the hard words and the connection of thought are made plain, you will train the understanding. If you help the child to realise the scene, and to fill up the gaps in description, you train the imagination. I will go further, and say, if line by line he counts the syllables, and notices the capitals and stops, you train his observation. And now, suppose you do none of these things, and, thinking to deal only with memory, content yourself with exacting merely a verbal repetition of lines that are never thought about or understood—what happens? Not simply that observation, imagination, and understanding are not trained, are lying fallow. Oh no, you have been injuring them. You have been accustoming them to lie idle and uninterested when you should have shown them how to be up and doing. You have been training your child to be stupid and unintelligent."

(2) "The Artificial Production of Stupidity in Schools: a Talk with Mr. Brudenell-Carter, F.R.C.S."

"'It is possible to stimulate the lower powers of the brain only, those which have their seat in the sensorium, and to impart by their means a quantity of what I have heard termed sensational learning, meaning that in which the sensorium or lower brain is alone concerned. Of course you are acquainted with those wonderful versions of the Church Catechism which Her Majesty's Inspector unearthed a great many years ago? No? Then I will get them for you.'

"And, after the book was found, we diligently read:—

"'My duty toads God is to bleed in him to fering and to loaf withold your arts withold my mine withold my sold and with my sernth to whirchp & to give thinks to put my old trast in him to call upon him to onner his old name and his world and to save him truly all the days of my lifes end.'

"This, too, is instructive:—

"'They did promis & voal three things in my name first that I shou'd pernounce of the devel & all his walks pumps and valities of this wicked wold & all the sinful larsts of the flesh.'

"'To judge of these productions we must remember that the children had been accustomed to repeat the catechism daily, including Sunday, for four or five years. That the spelling is bad is a mere trifle; the astonishing thing is that the writers have scarcely understood a single word.'

"'And I suppose you call these samples of sensational learning?'

"'I don't think the higher powers of the human mind came into play when the authors learned their catechism. Not a bad story, illustrating the same kind of thing, appeared in a Scotch paper: A traveller in Skye was accosted by a pert little boy, who offered to repeat to him the names of all the capitals of Europe, which he did without mistake. Being sceptical as to the value of this feat, the traveller asked the boy if he knew the name of the island he lived in, and, to prevent misunderstanding, repeated the question in Gaelic; no answer was forthcoming. "Now, my lad," quoth he, "you have told us the names of all the capitals of Europe; is a capital a man or a beast?" "It's a beast," was the decided answer.

"'But do you suppose cases like that are common nowadays?'

"'Perhaps not such pronounced cases. But I think that teachers are constantly in danger of forgetting that a child has the imitative faculty strongly developed, and that he may use words and expressions which we use, and attach absolutely no meaning to them. My point is that a child may pass through a whole course of sensational learning without having aroused in him the higher faculties of reflection, comparison, observation. This is the age of cheap handbooks, condensed statements of historical facts, of scientific results, compressed manuals on every possible subject. It almost needs the energy of a Society for the Confusion of Useless Knowledge to reckon the amount of mischief that may be done. Two well-known facts in the physiology of the brain may help us to realise this. In the sensorium, a child finds a perfected instrument ready to his use, one which offers far more easy and brilliant results than the comparatively feeble spark of intellect, which demands careful cultivation, the results only gained slowly in the vast majority of cases.' . . . .

"'Teachers should, in the first place, remember that such an exercise as reading may be purely visual. The impression is produced on the sensorium; it is too often an exercise in which the intellect plays no part. When the sensorium is vivid and acute, the teacher is inclined to consider the child "bright"; the child who is struggling to use his intellect is, to the superficial observer, a "slow" child.

"'The cerebrum may be torpid for more reasons than one. It is for the teacher to discover whether this is due to natural stupidity, to the neglect of stimulus, which the teacher may reasonably be expected to supply, to exhaustion of the attention, or to pre-occupation, when the demon of "thinking about something else" must be cast out. Children should be taught reading on the whole-word system. The word, not the letter, should be the unit of a reading system. Nor should the reading-lesson, in its early stages, be the vehicle of novelty. When a child is struggling with the form and sound of a word, his brain is quite sufficiently occupied. All novel ideas should be conveyed in an oral lesson. The words in his reading-lesson must represent ideas with which he is acquainted. I omitted to say that a child can learn to read on the whole-word system in from five hours to sixty; a competent teacher informs me that only in one instance did a child take sixty hours. Of course the lessons were very short—ten minutes. The sensorium can work for much longer, but it can pretty well take care of itself.'" (*Journal of Education*, September, 1894.)

The older psychology was content to observe that "the faculty of memory" and "powers of observation" became conspicuous, and in consequence the teacher was encouraged to load up the child with verbal memories, of Tables, Spelling, Poetry, and the like; or to amuse him with so-called Object-Lessons. But the growth of memory is merely one mark of a general growth of body and mind: the fact that ideas can now be recalled, that acts can now be rendered habitual, is merely one part of the general fact that the scattered life of the infant has now grown capable of consistent continuous shape.

Hence, the conclusion in the selection of Material—choose some subject-matter, worthy in itself, and related in all its parts.[1] Let his tendency towards self-realisation be fostered by the opportunities of associating, recalling, imagining, reasoning (for the child reasons, on his own plane, now as readily as later), feeling, and doing, which are afforded by a Time Table connecting all the school pursuits and extending over many weeks together.

(2) While this special feature marks off Later Childhood from Earlier Childhood, it must be still borne in mind that our pupil *remains* a child, *i.e.*, the subject-matter of which we are in search is to be "childish" in its nature. Our child is now gradually apperceiving the world about him; percepts of time, space accumulate about him; days of the week and the seasons, the clock, grand-parents and ancestors; domestic and school arrangements, streets, shops, industries, money, weather. And he learns, so far as he is permitted, a thousand activities of hand and eye and ear, not by exercises in set "forms," but in the course of daily pursuits at school and at home.

All these acquisitions emphasise the growth towards a real, sensible, practical, apprehension of the world about him; towards truth so far as truth consists in this accurate realisation of things as they appear to be. An education that ignores this element in development does an obvious injury to the child.

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[1] *Die grosse sittliche Energie ist der Effekt grosser Szenen und ganzer unzerstückter Gedankenmassen.*—Herbart.

(3) But while the child grows to be more and more "practical," as we say, he possesses an inner life which grows side by side with the outer life. Watch this little fellow as he listens to Uncle Remus. He likes the story first of all because he knows and loves the woods and the 'cute little rabbits that he has run after so vainly. But he loves the story because he is a human being, feeling day by day more and more the joys and the fears of his own inner life. This life is still the victim of vague fancy.[1] His imagination runs riot; his world is still something vastly different from our world; but he already shares with us the boundless realm of wonder, phantasy, hope, affection, grief, dread, which stretches far beyond the practical world and carries man to heaven and to hell.

§ 2. *Selection of Material.*—It is not difficult to secure among students of education an agreement as to the general principle that some main pursuit should be selected, extending at least over a few weeks, and embracing connections with all the branches put down in the Time Table. But a cleavage comes in the antagonism between the realist and the humanist.[2] Shall we check these vague imaginings, remnants of earlier, superstitious ages by absorption in the practical interests of time and sense? or shall we, since our own sympathies are on the side of literary culture, seek to make our children also humanists, leaving the external, ever-present environment to do its part in satisfying the child's "practical" sympathies?

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[1] Dickens's portraits of children are exaggerated, but they are invaluable; for exaggeration of a type helps to bring its features into relief (p. 18, above).

[2] These terms may be objected to by the student of Mediæval Philosophy, but they will serve our present purpose, and will perhaps be sufficiently explained by the context.

These two conflicting standpoints are well represented at the present moment at Jena (in Professor Rein's Seminar and Practice School, the head-quarters of the Herbartian tradition), and at Chicago, where Professor Dewey, with an equal reputation as a psychologist and student of education, has conducted a Practice School where his theories are tested, and gathers round him a group of teachers. These antagonists are agreed as to the general needs of the child as exhibited in child psychology; they are agreed largely also as to the general aim of education, based upon an ethical ideal; they agree further that this body of material should be sought from the early history of mankind, where the field, alike of thought and of activity, is simple. But while the German finds the supreme centre for his instruction in the inner life of the child, in human story, the American emphasises the practical activity of the child as being the one safe point of departure for the teaching of young children.

It will be readily seen that this issue, like the one raised in the last chapter on the use of Fairy Tales, rapidly leads us into regions of speculative philosophy. Is it a falsehood to sing to our child:

Hey diddle diddle! The cat and the fiddle!
The cow jumped over the moon;
The little dog laughed to see such sport,
And the dish ran after the spoon!

Undoubtedly there seems to be little evidence that dogs laugh, or that dishes run, but still there are more things in heaven and earth than are dreamed of in our philosophy. We are still confronted with Pilate's question, and any working answer, when crystallised for a school Time Table, will prove unsatisfactory in the debates of a Seminar. But meanwhile, children must be taught; and ideals must be cherished!

Nevertheless, if we permit the child to indulge (see Chap. VI above) in the romances of childhood by way of luxury, we are not committed to the view of some Herbartians who would have us believe that the fairy tale is a preparation for theology. God is not "found" on that road! The introduction of an arbitrary power intervening in the life of animals is not felt by the child to be necessary, and if *forced* upon his notice, is more likely to end in scepticism or in superstition than in faith.

To say that a compromise between these two champions offers the soundest policy is not a great thing to say, but it appears to the present writer to be the nearest approach to wisdom. And if, in the daily course of teaching, sufficient opportunity be given both for the influence of humanistic studies and for the influence of practical occupations, it is a matter of minor importance which of these appeals most closely to the personal inclination of the teacher.

Thus Rein selects the story of *Robinson*[1] as a chief interest for a child of eight years of age. The story lends itself capitally to those occupations of weaving, cooking, constructing, etc., which Dewey regards as so essential, and enables the child to get into the atmosphere of primitive conditions of life. It is, after all, of minor importance in practice whether the first stimulus to the entire work comes from sentiments relating to Crusoe himself, or from those impulses to imitative activity on which Dewey lays so great a stress.

§ 3. *The Humanities.*

From this point the reader can, if he choose, follow the corresponding paragraphs dealing with the six Groups and with the Time Table, in successive chapters up to Chapter XI, instead of reading each chapter through before beginning the next.

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[1] *Aus Hamburg!* (the same story as Defoe's *Robinson Crusoe*, but adapted to German environment). See Appendix: Notes of Lessons on Robinson.

Thus the sequence of each group will be separately perceived. He will then be able to see why some Groups (such as the Humanities and Nature Knowledge in this chapter) are treated more briefly in one chapter than another. It is not because they are regarded as less important than others for any school period, but because they do not happen to present new matter for discussion at that particular point.

The Index will also help the student, if he wishes, to follow the sequence of any Group throughout the book.

As examples of connected studies[1] which are suitable for this age, we have already mentioned *Robinson Crusoe*, which has been employed with great success in Germany for many years.

Herbart himself used *The Odyssey*, and other teachers have employed the *Myths and Tales of Greek Mythology* with equal success. The story of Joseph from the Old Testament may also be cited as another excellent example in this kind. It will be noted that these stories have one element in common—a feature of capital importance. They bring *family* relations into prominence. Odysseus never forgets Ithaca: the tragedy of Joseph's life centres round his father's home. The child is still a home-bird, and in the Humanities above all this sentiment must find a place right through into boyhood.

All these can be called classical, *i.e.* they bear the stamp of approval by the collected wisdom of many nations. The original literature in which the narratives are told must, of course, be not only translated but simplified, and often greatly curtailed: still, the translation should be as faithful as possible to classical examples, and the illustrations, which nowadays accompany any good narrative for children, should reproduce with fidelity the earliest representations which have survived.

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[1] It will be observed that we dissent from those who would regard isolated "biographies of great men" as suitable literature for this period. The biography is a difficult and quite modern form of literary art: the epic is far more primitive. (Cp. Willmann, *Didaktik als Bildungslehre*, ii. 340.)

The fact that they are classical implies that they fulfil Herbart's famous requirement[1]—they deal with topics of great intrinsic human worth. Simple though they may be, there is nothing mean or trivial about them. But many will hold that they lack one very essential quality—they are remote from the environment and experience of the child. "That is best which lieth nearest,"[2] and the story of Joseph or of Odysseus is by no means near at hand.

We may, however, plead that the child is still a child: he has only recently left the Kindergarten, where he has been accustomed to "Once upon a time" stories—quite remote from time and space. These narratives of far-off men and countries form a preface to real history, by way of legendary poetry. Nevertheless the objection has some force, and if the same culture-value can be obtained from literature and story nearer home, all the better. Hiawatha seems excellently suited for American children. Among English folk we are often told that the Norse sagas should supply us with the same satisfaction that Greek children find in Homer—but it does not.[3] The teacher cannot create literature, and until the legendary and heroic records of Celt and Saxon are put into a form at once felicitous in style and faithful in spirit, we find it difficult to appropriate them for school use. Thus, Tennyson's *Idylls* are irreproachable as literature, but they are not, they do not pretend to be, a picture of Celtic Britain under Arthur: they are rather a revision of Fourteenth Century romance, refined by the taste and feeling of the nineteenth century.

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[1] Herbart's *Science of Education* (Felkin's translation), pp. 81-91.

[2] P. 54, above.

[3] A recent edition of *Beowulf* for young children (H. Marshall and Son) is a gallant attempt of this kind, but the success is doubtful.

Where, however, a story offers which has not been told in classic form, but which, in substance, is worthy of being used, it may well be chosen as a part of the material for this period, provided that it is of simple texture. King Alfred provides the best example from the story of the English race, as does for the German people *Karl der Grosse.*

At this point we can effect our compromise with teachers such as John Dewey, who are especially concerned to acquaint the child at first hand with the industrial and domestic arts of early times, and with the aspect of Nature undisturbed by man. The age of the pioneer hero, whether he be King or backwoodsman, is the period suited for the child who is to start history at its beginning. He will appreciate his practical occupations in woodwork, etc., all the better if they are associated in his mind with the stories of men and women who really lived in those far-off days. And the danger of excessive stimulus to fancy will be happily counterbalanced by the steadying task of manual occupations. But we are not prepared to follow Professor Dewey in proposing to deduce the whole story of mankind from the struggle for existence.[1] If this be a true conception of history, we should prefer to keep it back from children's thoughts until the time came for them to share in the tragic struggle for existence. History is more than that! To the child, as to the grown man, the centre of Humanistic teaching must still abide in the joys and sorrows of human relationships, beginning with the simplest, deepest sentiments which cling around the homestead.

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[1] *School and Society*, p. 33.

§ 4. *Nature Knowledge.*—This danger is also counteracted by giving ample time and opportunity to Nature study. We have seen (Chap. III, § 3) that we intend the school to take a wide responsibility in the field of Natural Science, and the beginning has been suggested in the Kindergarten (VI, § 4 above).

Which of the sciences, then, is most suitable for these young children—Botany, Physics, Mineralogy? The reply to that question is to ignore it. It is true that there *is* an order of difficulty and of development in the Natural Sciences as there is in all studies, but before the child can grasp the beginnings of any formal science, it must have the necessary ideas and experiences. These years, from the standpoint of the specialist in science, are regarded solely as years in which such preliminary ideas and experiences are to be secured;[1] and from the more important standpoint, that of the teacher, they are years in which the child is perceiving external phenomena with attention and care. He learns the names of the animals and plants with which the wood is peopled;[2] he examines them in detail, continuing the pursuits which he was permitted in the Kindergarten, but *bringing these to a more definite issue.* For his powers of observation and expression have increased. He can study things, and can learn to read and even to record the results of his study.

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[1] To copy the terms which we employ later in Section III., these are years of "Preparation," when the "First Step" is being trod.

[2] Just as Longfellow pictures the young child for us—

> "Then the little Hiawatha
> Learned of every bird its language;
> Learned their secrets—
> Where they built their nests in summer,
> Where they hid themselves in winter."

He walks in the streets, and begins Physical Geography by making a plan:[1] he walks in the country, and finds abundant material for enriching the story and legend which occupies his lessons in Humanities. If, alas, he lives in a great town, and his school, instead of being placed near a park or in the suburbs, is shut out from communion with the purity and fresh air of the world as God designed it, he needs still more to be taken, at much cost of time and toil if need be, to see and feel what Nature is.[2] Of course, the work must be practical: it would never have been conceived otherwise, if teachers had not been bound down by the Renaissance tradition. Plants need to be planted before they are talked about: if you want a lesson on the cow, then at least the cowshed must be visited,[3] and if that is impossible, the teacher must be content with a lesson on the milk.

Nor must the term Nature Knowledge be limited to plants and animals. The Occupations[4] (see Chap. III, § 12, and § 8 (*b*) below) will provide equal opportunity for study. We must embrace under this head every sort of knowledge which is gained directly by sense-observation.

It need scarcely be added, after all that has been stated in previous chapters, that the choice of any special "Section"[1] for study must depend, firstly, upon correlation with the main topic in Humanities and in occupations round which the life of the pupil is for the time being centred; secondly, upon the possibility of treating the study practically. This second condition makes it necessary to vary the choice according to the situation of the school, the attainments of the teacher, the money at his disposal, and, alas! in many cases, the prejudices of outside authorities. But if this condition be disregarded, science is not being "taught": the children are receiving the stones of a teacher's chatter in place of the bread of life.

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[1] From this he proceeds to reading the plan of his town or village, then to the six-inch Ordnance map, the one-inch map, and finally to the atlas and the geography of his country. All this has been worked out by the best exponents of method in the teaching of Geography, but it *must proceed very slowly*.

[2] See Lewis, *The School Journey* (Sir I. Pitman's Sons, 1900), the most recent contribution by skilled English teachers to this important field of work, and note to p. 89

[3] See Report of the First Year of "Sesame House," recently established in London by the Sesame Club.

[4] Dewey, *The School and the Child*, pp. 70–88.

§ 5. *Abstract Sciences: Mathematics.*—The fundamental operations underlying the acquisition of Arithmetic and Geometry need to be investigated in detail before we can fairly judge between the old and the new methods of teaching Mathematics to children. The stock formulæ: "Go from the concrete to the abstract," "from the simple to the complex," are not discarded because they are false, but because they reveal so little. What appears concrete and simple to us may be only apperceived by the *child* after a series of complicated steps in abstraction,[2] which *we* skip quite unconsciously. Nor will any labelled "method" save the teacher from the necessity of getting at first principles, if he is to be in real sympathy with the child's standpoint.

It must suffice here to indicate the nature of the investigation.[3] The child's efforts during the whole of this period should be directed chiefly towards measurement, for it is only by a multitude of experiences gained from acts of measurement of quantities that the notion of "ratio" and of "times" can be abstracted. The children who fail to recite their "Times Tables" with success, or, what is worse, fail to apply their knowledge of the Tables to the doing of sums, are not always stupid, but they have suffered from premature introduction to abstract number.

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[1] See Chap. XII for use of the term. "Section."

[2] See Chap. III. § 5. above.

[3] Dewey's *Psychology of Number* (International Education Series, D. Appleton & Co.); Clifford's *Common Sense of the Exact Sciences* (International Science Series, Kegan Paul and Co.): Smith, *Teaching of Elementary Mathematics* (Mac-

Hence the reformed teaching of Arithmetic tends to leave the Times Tables very much in the background, and to fix the child's attention upon the idea of the unit of measurement. Obviously the material for such measurements will be taken from the materials offered for sense-observation in the occupations and the Nature-lessons. And from this practical work the few necessary "Tables" will be constructed—inches, feet, yards, pints, quarts, ounces, pounds.[1] The common practice of compelling children to spend time on currency measurement cannot be too strongly condemned: it is merely a crude survival from days when Arithmetic was only tolerated in the school as a first concession to the claims of practical commercial life.[2] The child, as he grows up to youth and manhood, can learn the current coinage, quite apart from school, as easily as he learns the names of the streets. If he becomes skilled at school in handling Arithmetical symbols, he will apply this skill to the tokens of commerce. At most some attention should be given to these

millan, 1900); Herbart's *A.B.C. der Anschauung* (translated in the International Education Series, D. Appleton & Co.) are books which will help in this study far more than any of the ordinary Text Books of Arithmetic.

[1] For the sequel to this, see § 4 in the next chapter.

[2] De Morgan on "Cocker" (Art. in *Penny Encyclopædia*).

applications of Arithmetic during the last year or so of school life (see Chap. IX, § 11, below).

A few children, no doubt, are not given any opportunity of handling either their own or their parents' money until later on in life: if so, this only proves that there is no immediate need for claiming a premature attention to money arithmetic at school! No! The school must no longer be treated as a place where the vulgar ideals of the nineteenth century are to be forced upon those who share the spirit of a new age. Granted that the child, when grown to man's estate, will need to be absorbed in balance-sheets and bills: for the present let him keep away from the multiplication and division of money.[1]

Time saved from the pressure of the money market can therefore be allotted (1) to exercises in measurement taken directly from other groups of study, (2) to exercises derived from these, leading to drill in abstract number. This drill is tedious if prolonged: the exercises should be short and daily repeated; they should conclude with formal, written summary of the conclusions gained, *i.e.*, the facts of the Times Table. The child can now construct portions of the Times Table, just as hereafter he will discover the properties of water or the formula for the solution of quadratic equations.

The success of this work absolutely depends upon the leisure with which it is pursued. Up to the seventh year no disappointment need be felt if a child can only work with the first ten digits. And another year (or even two) may be required to take him on to 100.[2] After that the journey to 1000 is comparatively easy. Beyond 1000 there seems to be no reason for advancing, since it is difficult to conceive of practical work at this age which requires the child to deal with so large a quantity. It need hardly be pointed out that the "first four rules" are learned as a part of this work, both in the concrete and the abstract portions. Multiplication and division must be understood from the first to be only abbreviated forms of addition and subtraction.

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[1] Compare pp. 63 and 74, above.

[2] Compare Arithmetic Schemes A and B in the Board of Education Code for Elementary Schools. The latter is expressly devised for teachers who are content to go slowly. And its rival will disappear in a year or two.

Finally, the beginnings must be made in Arithmetic so as to lay a firm foundation both for more advanced Arithmetic—in decimals, percentages, etc.,—and for the connection with Algebra. There should be nothing to unlearn.

Geometry.—The time for abstract Geometry is still far off, but the time has already begun for the child to gain an empirical notion of geometric forms, since every kind of work in measurement and construction involves perceptions of difference and contrast in space.[1] There seems, however, to be no adequate reason for assigning a separate place to Geometry in the Time Table during this period, as there is to Number. The elementary Geometrical ideas can be gained and formulated in the course of lessons in Arts or Occupations; whereas in the case of number not only have the ideas to be worked out in great detail, but skill has to be attained in the art of calculation. When the child, in clay modelling, has made a cylinder or sphere of clay, and has cut this into portions which give him the circle, he can quickly gain the idea of radius and diameter; but he cannot go much further with profit until he is several years older: hence, the more formal treatment of definitions, which underlies both the study of abstract Geometry and the practice of Geometrical Drawing, may well be left until a later period.[1]

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[1] See Herbart's *A.B.C. der Anschauung.*

Thus the one abstract science which the child really handles at this period is Number. He may also at the close of this period make a start with Grammar (see below), but we decided (Chap. III, § 9) to group this science in subordination to the arts of symbolic expression which now claim our attention.

§ 6. *Language and Music.*—From the general standpoint adopted in Chap. III, § 3 and § 10, we now enter into details. Up to seven years of age the child has talked much, heard much, sung much: he is now ready to acquire an interest in the symbols of speech, and, if you like, in the symbols of song.

The term "symbol" strikes the keynote of our starting-point. For the symbol can only be of interest to him who has interest in the thing symbolised. You may teach a child that the symbols d-e-e-r stand for the animal of that name, but if the child has never seen or gained an interest in the animal, the lesson will be tedious. Hence a proposition similar to that which has been advanced in relation to the abstract sciences—the subject-matter of language teaching must be derived from the topics familiar to the child's circle of ideas; and, since the topics handled in school at the time by the class, in the Humanities and the Occupations, are ready to hand, the advantage of correlation is obvious.

But when once this is accepted as the starting-point for each series of lessons, it is easy enough to create an *acquired* interest[2] in the symbols themselves, and in the sounds which they represent. Indeed, with intelligent children this interest, stimulated by imitation of older people, often becomes absorbing, and Colonel Parker[1] is justified in declaring that, if "the three R's" are to be regarded as the staple pursuit of primary classes, the children might as well stay at home, for many children learn to read and count quite apart from school instruction. But although reading is often "picked up," the process is a prolonged one, and, if undertaken completely, somewhat involved.

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[1] See Chap. VIII, § 4, below.

[2] Chap. II, § 5.

(1) How does the child approach the problem? The child hears, and uses, a word at a time. So long as he only talks and hears he does not need to analyse or compare sounds: each word, for the purposes of speech alone, is treated as if it were a letter of the Chinese alphabet, as a separate complex sound, with no relations to other sounds. But the symbol of that word, written or printed, is put forward as a *series* of simple symbols, *each* representing (or misrepresenting, alas!) some sound. Hence, the art of reading consists in acquiring, not only the power of recognising each *word* as a symbol for the sound of a *word*, but each *letter* as a symbol (so far as usage is consistent) of the sound of a *letter*.

The difficulties here encountered have suggested to some teachers the possibility of delaying the analytical process for a year or two, until the child has become familiar with a stock of word-symbols. After these have become familiar, it appears easier to approach analysis with success. Thus, the class have been studying the sheep in Nature-lessons: the teacher writes the word on the blackboard, and desires each child to copy what he has written below their drawing. Another day they have examined the sheep's teeth, and she writes "teeth."[2] So they proceed for a few months. Meanwhile, the children are constantly meeting such symbols out of school. They see their own names; the names of shops, streets: they are given an A B C picture book as a Christmas present.

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[1] See above, p. 61.

[2] This fairly describes the plan as the present writer saw it conducted at Chicago under Colonel Parker's direction.

(2) At last they are prepared for analysis. (They do not stop, of course, the process of observing whole word-symbols, but they add *to* that a more formal study.) This analysis is planned on many different bases: that recently produced by Miss Dale[1] seems to be based on a sound system of Phonetics, and it is greatly helped by the use of colours to represent the different classes of sounds—red for vowels, green for dentals, or the like.[2]

A lesson a day, for six months or a year, of this analytic type, will carry a child over the stage of mystery which inevitably surrounds the art of symbolic expression. The process is hastened if the child is allowed ample time to reproduce the symbols in writing, and if the subject-matter, both of writing and reading, are directly chosen, as advised above, from lessons given at the same time in other branches.

Beyond the practical advantage in learning to read, it will be observed that a child who is trained to hear and classify the sounds of language is gaining a valuable art in audition, which will serve him hereafter when he comes to foreign languages, or to shorthand.

It should be observed that this process of analysis on a phonetic system is not essential (many children have learnt to read without it!); but it corresponds to the advancing intelligence of the child, and helps him rapidly over a big difficulty.

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[1] Dent and Co.

[2] We are not concerned to advertise the merits of this particular book, nor to recommend the series of readers, etc., which belong to it: the teacher should make his own chart of sounds, and at the start should certainly construct his own reading sheets. The Sonnenschein books contain also a useful analysis, but the phonetics are not so thoroughly exhibited.

(3) After the completion of this analysis, the props provided by reading-sheets, varieties of colour, etc., may be removed. The child can now take a simple reader, illustrated or not, and will be able to read all the regular words, analysing each one into its separate symbols. He will be doing the same as little children have always done when they "spell" a word; but instead of calling each letter by an artificial name, he will utter the *sound* appropriate to it, and the succession of sounds gives the complete word, if, as we have observed, the word is regular. But, alas! in English spelling so many words play the child false; and if he only had this resource to rely upon, he would often be at a loss. Fortunately, he is only set to read *sense*: the succession of words in a sentence gives a connected whole, which enables him to guess the intention of words which disobey the laws of phonetics. He learns very early in his career as a reader to expect such troubles: he finds that *muff* and *tough* are not spelt alike, and after exclaiming, "How silly to spell tough with *gh* instead of *f*!" he goes along his philosophic way; and after he has met with "enough," "cough," "though," he is thoroughly disillusioned. But his phonetics help him all along when words *are* sensibly spelt. Occasionally, of course, the teacher must help him out; but if the reading matter is chosen so as to cover familiar ground, closely correlated with other pursuits, the child will keep up his interest in reading, and before the end of childhood will be able to read a simple book with ease.

(4) It is obvious that the process involves a great deal of time for practice—practice at home as well as at school: in the streets, deciphering sign-boards and advertisements;[1] writing simple letters to friends:[2] reading the explanation at the foot of pictures, and so forth.

Self-activity is the keynote of success, here as everywhere. Unhappily, some old methods of teaching, still current, encourage activity of another kind—that of the mechanical memory! When the inspector finds that a class in Standard II. can read one book only, and that very fluently; and equally well when the book is held upside down, he has to be merciful rather than just! If the children do not secure opportunity for individual activity away from the class-room, then the teacher must provide it, giving each child the chance of what is called *silent* reading.

Details of method, both as to Writing and Reading, are beyond the scope of this volume. It is sufficient to emphasise the law that writing must keep step with reading. These arts are one, and not two. The head-line copy-book has no place in a good school, except as an extra exercise for backward pupils. The forms of the letters must be practised and created at the same time that they are observed and sounded. Sensory and Motor activity, Impression and Expression must be kept in touch, here as everywhere.

Expression, it will be readily admitted, goes much beyond the act of copying. The copying of pictures is a necessary element in the training of an artist

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[1] This is perhaps the only reason why the State should *not* suppress street advertisements!

[2] Froebel's *Wie Lina Lesen und Schreiben lernt* is an admirable sketch.

(Chap. XV.), but unless he has from the first shown desire for independent composition, he will never "paint." How much more is this the case with expression in words, where the symbol counts for so little. As soon as the child has mastered the forms of simple words, and can put two and two together, he should be allowed to compose in writing as well as in speech.[1]

Grammar.—It is quite possible towards the close of childhood, with bright children who have mastered the elements of reading, to proceed from the recognition of words to the recognition of sentences, making that primary classification of words according to their function, which is the foundation, first of analysis, and then of parsing. But there is no need for haste in this matter. Unless we feel it necessary to teach Grammar because it has been regarded as an "unrivalled instrument of mental discipline," we shall not want it for practical use until a later period, so at present our language lessons may be confined to reading and writing, including therein punctuation, the obvious introduction to the grammar of the sentence.

Foreign Languages.—We reserve the question of a second or third language to the next chapter.

Music.—The child can begin to learn to disguish tones, and therewith to represent these by symbols, on the Tonic Solfa or other simple scheme of sounds. And he can begin to practise on an instrument—preferably the violin before the pianoforte.

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[1] Sargant, *Specimens of Work from an Elementary School* (Longmans, 1894). Other excellent examples are to hand in Scott's *Nature Study and the Child* (Isbister, 1900), a safe guide to the topics of this chapter in many directions. Compare also Chap. III in *The Fielden Demonstration School Record*, No. II (Manchester University Press, 1913).

As to the subject-matter of school songs, we may refer to the next Chapter, § 5.

§ 7. *The Arts of Representation.*—Just as in all other branches, so here, the child is now capable of continuous processes, and must be permitted to work through a regular course. But his range over a wide field must also be kept in view—colour, clay, chalk, pencil, must all have their turn during one term or another—each being chosen as the medium most appropriate for representing the objects suggested by the rest of the scheme of study.

At this point we meet for the first time with the conflict which will accompany us all through the succeeding years between the specialist and the "general" teacher. For many children, even at seven years of age, are already able, in this branch, to produce creditable work, and the artist-teacher, recognising this, seeks to commence a systematic art course, which shall produce ere long works worthy of exhibition.[1] But the teacher who clings to the principle of correlation, and who above all rejects the demand of "Art for Art's Sake" (Chap. III, § 11, above) refuses to sacrifice the child to these demands. Nevertheless, continuity in instruction is necessary, and the antagonism must be reconciled in practice. The teacher of art must be permitted to take the child step by step through the exercises necessary to attain skill, but in the choice of models and of subjects he is bound to submit to the suggestions offered from the Humanities, the Occupations, Nature Study, etc., of the general syllabus.

§ 8. *Physical Exercises and Recreations.*—After giving so great a prominence to branches (Nature Knowledge and Art) which offer opportunity for bodily as well as mental exercise,[1] it might be thought that the Time Table should now be closed, and that any further requirement in the way of physical exercise should be supplied by parents apart from school. But in our discussion of the nature of Physical Exercise and Recreation, we dissented from such a view; and in the case of young children, we urge with the utmost emphasis that the school should take its fair share of responsibility for exercises which are mainly physical and recreative in their aims.

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[1] Cf. the annual exhibition of work sent up to the Royal Drawing Society of London.

This being granted, we turn to our classification of Physical Exercises,[2] and inquire how many of these are suitable for the period of childhood. The first, (*a*) Simple Physical Activity, needs no further attention. At home and at school the child will romp and wander in its own way, if time is permitted: both time *and space* for absolutely unrestricted exercise is required.

(*b*) Under the Imitative Exercises, we find first of all those occupations of which Professor Dewey is the most recent and the ablest champion (see above, p. 83). Accepting with him, and with all students of child nature, the general analogy between the development of the race and of the individual, accepting also his proposition that the economic changes of the last century have created a situation which forces the school to give great prominence to imitative industrial occupations, as a means towards achieving the moral ends of education; accepting also the conclusions of psychology, that the young child learns chiefly by the use of the senses,[3] not by the spoken word: we are bound to welcome Manual training at this period of school life, especially when correlated, as Professor Dewey desires, with the Humanities.

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[1] See Chap. III, § 12 (*f*).

[2] Chap. III, § 12.

[3] Dr. Virchow, a great German physician and scientist, spoke as follows at the Berlin Conference in 1890:—"Each generation of medical students is less able to use the senses

(*c*) *Games and Contests.*—Observation of children out of doors suggests that they do not show much inclination for organised games until after the period of childhood. So far as they do care for "sport," the instinct may well be left to develop itself without organisation from older folk, in free play-time. It is true that little boys in Preparatory Schools often start being coached in cricket and football, as well as in Latin and Greek, at the age of eight: but this is part of a great competitive system for cultivating a highly artificial product. Education in such cases is obviously sacrificed to the pains and benefits of a career of public, or social, distinction.

(*d*) All exercises of the gymnastic type have a special value in assisting the control of nerves and muscles by the will. To an earlier generation such ideas would have seemed ridiculous, but in an age when so many children inherit neurotic tendencies, assiduously fostered by the environment of town life, it seems necessary to consider whether the need exists. If it does exist, and if the other physical exercises already introduced into the Time Table do not seem to meet the case, then some regular Gymnastic Drill of the Swedish type under skilled guidance can be profitably introduced at this period. The exercises should only last for a few minutes, but they should be repeated each day.

Young children like being controlled in exercises

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properly than its predecessor. They cannot distinguish colours; just as they cannot see, so they cannot feel, hear, or smell. Thus the natural facility for observation which used to characterise man, is weakened by the curriculum of the Gymnasium."

of precision, if the exercises are brief and vigorous. Such exercises with large classes of forty or fifty are almost essential, as supplying the readiest means of clearing a classroom or a playground rapidly: it becomes necessary to make each body of children follow promptly the word of command. Such drill does them no harm, and may sometimes be adopted in smaller schools: it must not be allowed, however, to introduce the *martinet* spirit into the school, changing the teacher into a sergeant. This danger can be anticipated by training children to command as well as to obey: a "monitor" will readily learn how to control a squad with the few necessary words of command. Here, as everywhere, the teacher's rule is—never to do anything himself which his pupils can do: even if he does not thereby economise his own strength, he provides his class with opportunities of training.

(*e*) The sense of rhythm may be trained in connection with music. If dancing forms a part of the school programme, it is easy for a child of eight to commence to learn, and the instruction should be associated with song.[1] If not, the school is justified in finding time for what is called Musical Drill as a feature of the social recreation of the school, and as an aid to the interpretation of music.

§ 9. *The Time Table.*—Up to the age of six the child comes to school for not more than three hours, and, allowing for recreation, this gives time for six lessons of the average length of twenty-five minutes (see Chap. VI, § 5). The average length of a lesson may now be extended to thirty minutes, and the child may remain another half-hour at school in the morning, *if* a good portion of the time be spent in lessons which involve a minimum of strain. But the better plan is to release the child for a long interval at mid-day, and to have him in class again for an hour or more in the afternoon. He is not yet old enough to be set any home-lessons. Since silent individual study is, however, useful in practising the arts of reading (see above) and writing, and in doing easy "sums," the school time should be extended for an extra half-hour in the afternoon, instead of giving books and paper to be taken home (see Chaps. VIII, p. 205, and XVI, § 10).

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[1] Compare Mahaffy in *Old Greek Education*, pp. 73–75: a most valuable piece of writing.

Let us appropriate, then, four hours and a half of the child's time per day to the school. Leaving half-an-hour for the playground, we have eight periods per diem of the average length of half-an-hour. These may be roughly divided between the six Groups as follows, a lesson being allotted to each Group each day :—(1) Story and Song, (2) Nature Study, (3) Number, (4) Language, *i.e.* Reading and Writing, (5) Arts of Representation, (6) Occupations. A seventh group is demanded by (7) Silent preparation. This leaves one period in each day not allotted. Some of the six will demand more time, especially Nature Study and Occupations, which require apparatus to be got out and put away: sometimes they involve a walk or a visit to a museum.

But the general principle should be observed—that each important pursuit requires to be taken up each day, if only for a few minutes, in order to keep up the continuity of intensive[1] impression in the pupil's mind. It may be objected that some of these six Groups include more than one of the branches commonly pursued in schools, and that if these branches are all to find a place in the weekly Time Table, each cannot find a place every day. This is very true, and hence the importance of the discussion in Chapter III, which sought to elicit the essential features in these multiplied branches. Geography, for example, is, in many aspects, a branch of Nature Knowledge. It may therefore be taken up daily for a month at a time under this heading in the Time Table, if the general scheme of study and other considerations make such an arrangement convenient. During that month the child will be engaged solely upon Geography, and will not concern himself with other forms of Nature Knowledge, except in so far as his attention may be required, apart from lessons, for the care of plants or animals. After his needs in Geography for the time being have been met, this branch of Nature Knowledge will be dropped, and a section of study on the growth or function of plants may be suggested by the general scheme of study. This, in turn, may give place to some "Sections" treating of animals, and later on another set of lessons will be needed in Geography. Such a plan may appear to be a violation of custom, but it does not violate common-sense; there is no law which requires that the rubric "Geography" shall appear in the Time Table once or twice a week from the age of six to sixteen; but there *is* need for the "intensive rule" which we discussed in Chap. V, § 2.

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[1] P. 119, above.

Our only principle is—to give ample room in each day and week for a fair balance of attention divided between the six Groups, which claim separate treatment on the ground of essential differences in their nature.

Summary of achievement during the three years.—Looking back on the child as he left the infant school or Kindergarten, we can perceive the great strides that he has taken. He has come to realise the world of society as a vague multitude of beings quite beyond the circle of his own family, and reaching back to far-away times: he has heard and told the story of many brave and worthy folk who lived and died in those far-off days. He has to some extent lived into their life: he has studied the old world in the rough state in which they had to face it: he has grown the corn, or baked the bread, or woven the cloth, as they had to do: along with this he has gained some continuous collected ideas about the natural world around him, streets and towns and country, familiar plants and animals; and his appetite is whetted for more. He has covered the first step in various arts of skill; in Number, in Reading and Writing, in the use of pencil and brush: he is now prepared to apply these arts for the general purposes of further culture. And his senses, as well as his body as a whole, are keen, ready to seize upon the next task which school offers to him.

The school-boy and the school-girl now step upon the stage, equipped, it may be, with some consciousness of the nature of this task.

CHAPTER VIII

THE BEGINNINGS OF BOYHOOD AND GIRLHOOD

> Perioden, die Kein Meister beschrieb, deren Geist Kein Dichter atmet, sind der Erziehung wenig wert.—HERBART.

§ 1.—WE have described briefly in Chap. IV the marked features of contrast between childhood and boyhood or girlhood, and may at once proceed to our present task of sketching in the materials of teaching suitable for the period which, on the average in England, is covered between the ages ten to twelve.

The discussion at the outset of the previous chapter serves to indicate the outline for this chapter. We need once more to select for each month or six weeks[1] some central theme of great Humanistic interest, and this theme should still be such as shall offer opportunity for correlation with other groups. As the pupil (for he is no longer a child) grows older, it will, as we have seen, become more difficult, and be less necessary, to keep in one hand all the threads of connection between the groups, for the growing independence of the pupil makes him more and more capable of sustaining several independent compartments (if the term may be permitted) of interest. Further, the demand of the specialist teacher, that his branch of study be pursued in orderly sequence (Chap. V, § 3), has to be admitted more fully as the pupil progresses towards definite acquisition of formal sciences and arts. But for the present this correlation must be continued wherever feasible, for the pupil has not yet grown to man's estate, and it must be chiefly sought in those branches which evince natural and permanent relationships with each other.

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[1] The increase of age makes it possible to extend the time during which the interest of one large theme can be sustained. In the Kindergarten a week is long enough; in later boyhood the interest can be sustained for a whole term.

This principle of correlation will also be with us as an indispensable guide at the *beginning* of every new pursuit. It will provide us both with the starting-point of aim, and with bonds of association carrying the pupil at least through the elementary stages, until the new pursuit acquires interest on its own account (Chap. III, § 5).

§ 2. *The Humanities—History.*—The pupil now begins what may be fairly called History, and since History consists essentially in securing an apprehension of events in past time, leading up to what is visible and present, it can scarcely be questioned that the history of one's own neighbourhood and country in early times must precede the study of foreign countries and of later times: for, not only do these early days provide the necessary introduction to what comes later, they are in themselves easier to understand, the characters and motives are simpler—Canute is easier to handle than Napoleon; Simon de Montfort easier than Gladstone. As an example of a scheme for dividing the history into epochs for a course of nine terms (three terms to a year), the following may be suggested:—

1. Celts, Saxons, and Danes—treated especially with reference to local legends and geography (place-names, etc., as in Isaac Taylor[1]).

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[1] *Names and Places* (Macmillan and Co.).

The Age of Chivalry.

2. The Normans and the Angevins (1066 to 1215).
3. Consolidation of the English Kingdom (1215 to 1327).
4. England and France (1327 to 1453).
5. The New World: the age of Discovery.
6. The Renaissance and the Reformation.
7. The spacious times of great Elizabeth.
8. From Cromwell to Chatham.
9. The British Empire from Quebec to Waterloo.

The head-lines for these divisions are unsatisfactory. It is impossible always in a phrase to hit off the vital point at issue. Our national story needs to be subjected to the same rule which we apply to all other history: we will only dwell on those periods which contain elements of worth; and also, those which are capable of appreciation by such young pupils. These two canons enable us to omit many topics which the History scholar would take greater note of. Edward II., Henry VI., James II., are not characters whom a schoolboy need waste much time about. They need only be attended to by him in order to complete the outline of a story, which for the sake of completeness, he must know in consecutive order. The Time Chart[1] or History outline used for the lessons, gives a place *en passant* to these minor, unworthy events, and so he must give them a place also in his recollection. But when he comes to Magna Charta, or to Columbus and Cabot, to events, that is to say, which mark an epoch in the life of his forefathers, he must treat these in detail, reading original authorities, looking at illustrations, thinking out in his own form of words the motives and results.

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[1] See, *e.g.*, Withers on History Teaching in *Teaching and Organization* (Longmans, 1898); and Vol. II of *Special Reports on Educational Subjects*—article on Haselmere Museum.

Literature.—Having learnt in childhood the art of reading, the pupil now uses the written word, and he should find use for it in two ways, (1) as a medium for gaining information, (2) as a fine art, which he contemplates, copies, and finally practises (see Chaps. XIV, XV, below). Now, for the first purpose, he will obviously seek to read just those books which give him the information he can best get *from* books. Thus, if he wishes to understand Simon de Montfort's relations with Henry III. and Prince Edward, he will turn to an account of the matter, and will naturally prefer to get an account given at first hand by contemporaries.[1] This reading material must, of course, be carefully selected for him, but he should be allowed, as a principle essential to the art of literature, to use his books from the outset for a practical purpose, and not for the dreary purpose of simply learning to read. It is a wholesome sign of the times that the publishers of Primary School books are discarding the miscellaneous scrappy Reader in favour of books called Historical, Geographical, or Science Readers, which correlate the acquirement of the art of Reading with some other branch of study.

In course of time these books will suffer a further improvement. They will leave a large part of their present content to be worked out by teacher and class in oral lessons, and they will fill the books, partly with extracts and illustrations from past times, partly with *real* literature, poetry and prose, which has been written by authors of the first rank. A teacher can seldom be expected to write books of genuine literary merit; and yet work of that quality ought to be placed before the pupil.[1]

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[1] The whole scheme of studies in this section is further developed in *The Fielden Demonstration School Record*, No. II (see p. 170, above, and Chap. XII, below).

But there is another kind of book from which a pupil can get information. As soon as he can handle books at all, he should practise the art of using books of reference. A dictionary, an outline of English History,[2] an Indexed Atlas are the first tools which can be employed, and the habit of using such books, which will follow him all his life, should be commenced during these years: not as a separate, additional branch of study, or as an additional burden to Humanities lessons! but because knowledge is best gained and retained if it is sought for by the learner, instead of being pumped into him by a text-book or a teacher.

Our desire for correlation compels us to seek for literary material which bears upon the scheme of study, since we distrust the cultivation of any art merely for its own sake. Teachers of literary taste commonly resent this mode of selection, for it appears to them to narrow fatally the range of selection. "Every school-boy," they say, "should become acquainted with masterpieces of English literature. But if you compel me to teach only such selections as correlate with this or that period of History or topic in Science, you banish some of the most precious and suitable material. Where, in such a scheme, is a place found for *As You Like It*, *Paradise Lost*, *The Faery Queene?*" The straight reply to this argument is to deny its validity. There is no reason why a school-boy *should* cover the immense field of modern literature. Titian, Raphael, Rossetti are as valuable, for the purposes of general culture, as Spenser and Milton, but we do not make this demand upon the school in the art of Painting; why make so excessive a demand in the fine art of Literature? Let something be left for manhood, if we believe in our profession and expect our pupils in adult life to indulge the taste which was commenced at school. The final reply, however, must be sought when we inquire into principles of Method, and seek in a later chapter,[1] under the guidance of "masters," such as Reynolds and Ruskin, for the principles to guide us in laying the foundations of taste and of skill in the arts. For the present we abide by the rule that the pupil should always be provided during each term with some "good" books of poetry and prose related to his scheme of study in Humanities and in Science. If this scheme, as we urge, deal with worthy and important topics, there will always be some standard literary material forthcoming, since these are the very themes which have inspired poet and thinker to utterance.

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[1] "This child of ours is already full of speech; he delights in rhythm, in fine words, in song; he, like all good poets, is profoundly affected by simple pathos. The story of Joseph forgiving his repentant brothers, of Ulysses coming home after his long wanderings, of Nelson and Henry of Agincourt and of all brave heroes, appeal to him. We are accustomed to boast that we in this century have learnt from Wordsworth and his friends to love the aspect of Nature with a new affection. But our children outrun us in these sentiments; give them the chance, and they, too, will find poetry in the primrose by the river's brim. They will not express their feelings in the speech of Wordsworth, but in a language of their own—simple, sensuous, passionate. *Give them the chance.* On this condition, and on this alone, the issue depends."—From a paper by the present writer (*Journal of Education*, September, 1899), which explains more fully than is possible here, the purpose of Humanistic teaching in the school.

[2] Curtis (Simpkin, Marshall, and Co.) supplied the wants of an earlier generation. Acland and Ransome's (Longmans and Co.) books have done a similar service of late years.

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[1] Chap. XV.

Human Geography.[1]—A precisely similar argument provides the starting-point for each Section in Geography. We may take the series suggested on p. 180, above, as a guide :—

1. Local Geography and England.
2. Completion of England ; and Ireland.
3. Wales and Scotland.
4. France (thoroughly) ; with Spain, Portugal, Italy, added in outline.

5, 6, and 7. The world in outline, and particularly America. We make the journey with Columbus, and correlate with physical geography if possible also.

8 and 9. The British Empire.

This correlation gives the starting-point for each new Section of study, and will also provide many points of interesting historical association during the course of the lessons. But it does not commit us to a rigid adherence to historical geography. Having realised the importance of France through our study of the Hundred Years' War, we will introduce our pupils to France as we find it to-day. The map of the world as Columbus viewed it is an interesting and most valuable illustration for the history of that period, but it would be a travesty of Geography to confine our pupils' study to that range. When once the class has gained its idea of Mercator's Projection from the Science[2] lessons, it can proceed to fill in the outline, not as Mercator knew it, but as we know it to-day.

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[1] A somewhat awkward phrase, but it has received the sanction of competent geographers.

[2] And from drawing-lessons also. Compare Ruskin, "The Laws of Fiesole" (*Elements of Drawing*), for a most powerful plea in favour of practical correlation. His chapter on Map Drawing is eminently suggestive.

The critic who distrusts this principle of selection will at least admit that it is no worse than the haphazard mode of choice with which many schools have to be content. "Please, sir," said an inquisitive youngster to his master, "why do you so often teach us Germany in Geography lessons?" "Why, my dear boy," replied the master, "it never struck me before, but I have been there myself, and it is the only foreign country I know anything about!"

Scripture Lessons.—We have left the literature and history of the Bible to the last, not because it is unimportant, but because in a general volume such as this it is impossible to enter into sufficient detail to do justice to it. It has been pointed out in Chap. III that it is difficult to correlate a cycle of Scripture lessons term by term with the general scheme of study. Some day-schools, which accept responsibility for Bible teaching, associate the lessons with the daily portions of Scripture read, and, when possible, with the psalm or hymn sung at school prayers. Such a plan makes it necessary that the entire school shall study the same portion of Bible narrative at the same time, and this is not so difficult as might at first sight appear.

Additional Topics.—This, indeed, is only one example of sources, apart from the main course of study, to which the teacher may turn in his search for appropriate material in literature or geography. The school-boy is a member of the school society as well as of his Form, and if the school in autumn time wishes to sing "October,"[1] the class may study and learn by heart this truly classical poem. For here and there one *does* find a teacher who is also an artist! Or the nation may be passing through some great crisis, such as the South African tragedy: the teacher may be pardoned if he turns aside to place some of our heroic poetry before his boys, and to set them to study the map of the Transvaal. Year by year the nation has its great feasts, religious and patriotic,[1] the school has its commemorations: these provide further opportunities for the selection on a rational principle of suitable subject-matter for lessons in the Humanities. None the less, the scheme of study must never fall into the background, for the unity of the pupil's life is the final goal of the whole business of teaching.

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[1] See Chap. XV, p. 358.

§ 3. *Natural Science.*—This period of school life witnesses the commencement of what may fairly be called scientific study. The pupil is not prepared to embark on formal abstract reasoning, but he delights to compare and classify. Boys are great "collectors" at this time: birds' eggs, butterflies, postage stamps, any and everything will serve their purpose. The science teacher then has full opportunity for laying the foundations of scientific habits in encouraging his class to handle, observe, and compare a great variety of phenomena which underlie the Natural Sciences. The reasoning based on these phenomena will be superficial, but it may be sound so far as it goes. The selection of topics can still be largely governed by correlation with the Humanities, since there is an historic order in the progress of scientific need, of invention and discovery, which corresponds in part with the psychological order in which the teacher will desire his pupils to learn the natural sciences. Columbus came before Captain Cook, and Roger Bacon before Newton.[1]

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[1] *Vide* "The Cultivation of Patriotism in the School," *Educational Times*, November, 1900.

But it will be a long time before teachers are able to dovetail so completely a syllabus of Science with a syllabus of Humanities. Meanwhile it will be mischievous to attempt to force the principle of correlation beyond all other claims. The limitations described in the previous chapter apply with still greater force here, since the older the class, the more difficult it is found to provide teaching and apparatus adapted to so many varieties of science work. And it is unnecessary to repeat in every chapter that science instruction, from start to finish, must provide for practical work by the pupils as well as demonstration work by the teacher, and so-called "theoretical" work. Hence correlation with the Humanities is likely to be sacrificed to sequence (see Chap. V), since a Course of science teaching is now to commence which will follow a consecutive course, and finally be found helpful as a foundation for Technical or University studies.

An illustration will be found in the Appendix of a Scheme of Study which is being worked out in a Secondary School at present. But this is only presented *as* an example. The field is wide, and so long as the fundamental principles are adhered to, every school will achieve its own end best by working out a Course of Study suited to its own circumstances. Thus in *Physiology*, an interesting course, extending over two years, for girls nine to eleven years of age, has been reported. The children found a real interest in bones! One of them attacked her family doctor, and brought a portmanteau full of his specimens to school. The butcher's shop came to be regarded with a novel and scientific interest. The teacher ascribes the success of this pursuit partly to the interest taken by young children in the physical Ego, and in its environment (food, clothing, etc.), partly to the fact that they are not yet old enough to feel the repugnance felt by older girls to sights supposed to be offensive. A coarse mind might indeed be degraded by vulgar handling of such themes, but wise teaching would help much towards cultivating that true refinement with which false modesty is apt to be confused.

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[1] A valuable German monograph on this subject, from the Herbartian standpoint, is Beyer, *Die Naturwissenschaften in der Erziehungsschule*; also, by the same author, in Rein's *Encyclopædie der Pädagogik*.

Bearing in mind, therefore, that there is no one rigid scheme of study which can be authoritatively laid down as the best, we can suggest that a choice can be made from a variety of topics, selected from all the common branches of Natural Science, but always including Physiography and physical measurements, since these are of universal importance as a basis for later studies.

§ 4. *The Abstract Sciences—Mathematics.*—The study of Number in the previous period now develops into a formal science, which may fairly be called Mathematical Arithmetic, and which before the close of the period enters upon a further stage of abstraction when Algebra is commenced.

The subject-matter of Arithmetic will be almost wholly derived from measurement and quantitative work in science. Decimals need prolonged and careful inquiry, leading at last to Fractions. The calculation of percentages, so important for laboratory work, plays an important part, and the metric system[1] is, of course, employed for all units of measurement in preference to the English tables. The simpler English tables—feet, yards, pints, quarts, ounces, pounds—will have been already practised in earlier years, and if, for examination purposes, more attention to these measures should be required, it can be more effectively supplied when the time for such examination draws near. There is no reason why a young boy should be burdened for five years with the useless, albeit historically interesting, fact that "5½ yards make 1 rod, pole, or perch."

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[1] The commencement of French during this same period (p. 198, below) might suggest a useful point of correlation. It

Algebra is generalised Arithmetic, and the time when a class should commence the study can only be gauged by the facility which they show in apprehending the general ideas gained from Arithmetic. The teacher should not be required to commence Algebra at once as a separate study. He can cross the bridge without letting his class know that they are beginning a study labelled with a novel name. When they are fairly safe, and find that they can proceed without danger, he may formally introduce them to this new country; but, if he finds that he has been too precipitate, he can return before his pupils have realised that the venture has been made.

Popular objection, especially in regard to Primary Schools, is often taken to the study of Algebra at this period. We have no defence to offer, except that it is by nature a sequel to Arithmetic, and that it is a useful aid to clear thinking in all matters where Number is concerned. And since the Natural Sciences depend so intimately upon relations of Number, it is necessary to acquire the

will not be long, perhaps, before a class of English pupils work at the metric system in the French tongue as French children do in Paris.

art of thinking in terms of Algebra, if the pupil is in course of time to advance in scientific thinking. If this argument does not carry sufficient weight in any particular school, there is no further reason for commencing the study; and children who are compelled to leave school at a very early age, may well be put to pursuits which have a closer relation to Equipment (see Chap. IX, p. 212).

Geometry stands upon a different footing. It treats of fundamental ideas relating to space, and a mind which has not been practised in thinking out these ideas, is as badly equipped[1] as a mind which has neglected to think in terms of Number. But the child has in previous years made great progress in Number, whereas Geometry[2] has only been treated as a matter of minor importance. Hence, although the time has not yet arrived for the difficult task of commencing theoretical Geometry,[3] the *introduction* to this task should not be delayed: there is employment for at least one year in a course of what is often called "Concrete Geometry,"[4] which can be profitably aided by associations with the syllabus of Natural Science, and at times with workshop occupations. It should, of course, be treated as an exercise also in Drawing, and the habit of drawing careful and exact figures, so important in the later study of Geometry, as well as for Equipment in the various callings where Drawing is of value, can here be diligently practised, if, indeed, it has not already received attention in childhood.

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[1] For culture in its widest sense, as well as for a great number of professions and trades.

[2] Chap. VII, p. 164.

[3] Some boys and girls no doubt are able to tackle Euclid long before they are twelve years old, but experience shows this is too early for most children. We are in the midst of a revolution in the teaching of school Mathematics which will tend both to delay the study of *Theoretical* Geometry, and to minimise its importance (see Report of British Association Meetings, 1901; *The School World*, January, 1902, and *Educational Times*, April, 1902, etc.)

[4] Called *Inventional Geometry*, by W. Spencer (father of Herbert Spencer, the philosopher), Seeley and Co., 1870. Many other books have been produced aiming with more or less success to introduce the pupil to Geometrical thinking by concrete studies. Among these should be noted books by Paul Bert (translated from the French), Hamilton and Kettle, Sanderson, Campbell, Eggar, Roberts, and see p. 260.

Grammar.—The study of Grammar, commenced, perhaps, in the previous period (see p. 74, above), is now continued as a more formal study, but in strict subordination to the Art of Language (see the next paragraph). This formal study is indeed felt to be necessary by the pupil, for the forms of foreign speech prove much more difficult if the pupil is not at home in the elements of analysis and parsing. The study is, in the strictest sense of the word, a science:—the observation of function and relationship. It is ended when the pupil is able to describe, and name the function of, each word in a clause or sentence, and the relation of words and sentences to each other. The study is not, essentially, a part of *English* teaching, for the ideas are common to all the languages which are taken up afterwards, and should be incessantly applied to them.

§ 5. *The Arts of Expression*—(1) *The Native Tongue.*—The progress of the growing child in capacity for sustained and connected thought will now enable him to undertake what may fairly be called composition, first in speech, then in writing. His models[1] are the books of good literature which he reads, and the oral speech which he continues to hear from teachers at school and from his home environment. This literature, together with other interesting incidents (see p. 185, above), supply him also with themes for these compositions, and his earliest efforts at composition, commenced (see p. 170, above) long before he is able to write formal essays, consist of oral work in connected and *uninterrupted* recapitulation during the course of instruction. He should not, at first, be left to compose essays entirely as home lessons. He must be *trained* in this art, by working up an essay, in common with all the class, guided by the teacher. The syllabus of this branch will, therefore, comprise a systematic treatment of all topics relating to the practice of the art, which the teacher's experience finds require attention. Among topics relating to "form," the use of stops and of capital letters, difficulties of spelling, may be cited as matters that will certainly require attention: topics relating to style are more difficult to handle; but, at any rate, the pupil may be trained from the first to arrange his thoughts in sequence, with a beginning and a conclusion. Composition, however, is a fine art, and no place should be allotted in the curriculum to a text-book or syllabus which would lead the pupil to a mastery of ideas *about* composition in advance of his practical skill. (Chap. XV, § 4.)

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[1] Chap. XV, § 3, below.

While set lessons in the native language thus appear to be necessary, it must not be overlooked that the pupil learns, or unlearns, the art of expression *mainly* through the oral forms of instruction pursued in every branch. One of the gravest mistakes made by teachers of Mathematics and Science often consists in disregard of the intimate association between language and thought. Thus, if the elementary Algebra above referred to be undertaken, the class must be able to describe the processes pursued, employing the proper technical terms.[1]

The Art of Reading.—The subject-matter for Reading has already received notice. Time must be found, not only for reading aloud, but for silent reading. Many children are by this time keen about books: they will often read their story-book when they ought to be out-of-doors! The teacher may at least capture this inclination in the interests of culture. It has been found possible in some schools to establish a Class Library, kept, as a Lending Library, by the teacher and his pupils together. It consists mainly of books relating to the year's syllabus of study in the Humanities and Nature Knowledge. Many of them are story-books, but others are biographies, books of illustrations relating to history and art, others are works of "popular science." The keen readers, unless they are wisely checked, will devour the entire Library in twelve months, especially if they are permitted to keep a book or two over for holiday times: but the plan will produce its best results with those who, without such a plan, would never learn to *read by themselves*. One lesson-hour per week can well be devoted simply to such silent reading, each pupil having a separate book: this will provide a start for all, and most will read further out of school hours of their own accord. The essential feature of such a Class Library is that its volumes are associated with the syllabus of study, and in this respect it is to be distinguished from the general School Library, which is already a feature of most good schools.

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[1] Memo. of short speech by a boy who has finished a solution. "I multiplied the first equation by 2, and the second equation by 3, and then added the two equations together. I did this in order to eliminate y, because $4y \times 3$ is equal to $6y \times 2$. The result was a simple equation in x. I divided both sides of this equation by 10 and changed the sign of both sides. Then I had an equation which gave me the value of x. I substituted this value of x in equation (b), and got a simple equation in y. I subtracted 12 from each side of this equation, and also divided both sides by the coefficient of y. This gave me the value of y. I proved the solution by substituting the values of x and y in equation (a)." (This boy was learning to speak clearly and truthfully. And a mathematician would surely admit that he would be a better, safer mathematician for spending time in thus expressing his mind.)

(2) *Foreign Tongues.*—Many children commence to study foreign languages, especially Latin or French, long before they are ten years of age, and it is quite true that success of a kind can be achieved if sound methods are employed. But the arguments in defence of this plan are based solely upon the demands of Equipment, not upon considerations of Child Nature. "It is difficult to acquire a correct pronunciation, a large vocabulary, a correct use of the rules of grammar: many years seem to be required in order to achieve such an end; and therefore," it is said, "the business must be taken in hand almost as soon as the child comes to school." This plea, together with the overwhelming influence of the Renaissance tradition, has made it almost impossible, until within recent years, to treat the problem from the standpoint of a scientific theory of education.

But the prospect is now brightened. The utilitarian doctrines of the nineteenth century have done much harm, but they have acted as a counterpoise to the narrowness of the old "Grammar School" pedagogy: the decay of the faculty-psychology has led to a distrust of language teaching as a special medium for mental discipline: the study of method and principles of teaching has shown it to be possible to lighten the burden of acquisition, and thus relieve the stress at the beginning; and finally, the issue year by year of excellent translations from all languages, ancient and modern alike, has shown it to be unnecessary, for the mere purpose of personal culture, to acquire the original language in which a great book has been written.

If, however, these changes have depreciated the importance attached to Hebrew, Greek, and Latin, they have by no means detracted from the high value attached in public opinion to a knowledge of modern tongues. The educated world has become international. A school-boy knows more about Paris and Berlin than his forbears in 1800 knew about London. Culture, commerce, politics, transport, travel, have all combined to keep before the public mind the need of repairing the disaster of Babel. Some dreamers have thought it possible to end the trouble by creating an international (or rather extra-national) language, arguing from the use of Latin (of sorts!) as a common language before the Renaissance: but the close of the Middle Ages witnessed not only the exclusion of Latin as a cosmopolitan speech in Western Europe; it witnessed also the end of that political dream of a Roman Empire, and the substitution of separate nations, each with its own life, its own history, and —*its own tongue.* We shall seek in this intimate association between a nation's speech and its life for a leading indication both as to method and matter in the problem before us.

Since Language, to repeat the conclusion of Chap. III, is the expression of thought in words, a foreign language is the expression of the foreign thought, the foreign *esprit*, point of view, sympathy, in the foreign words. That being admitted, the question as to the proper time to commence such a study admits of an easy answer. When does the pupil arrive in thought at the limits of his own country, and find his interest awakened in other countries? His circle of ideas begins in infancy with the family: we have watched the circle widen, till it touches first the town and neighbourhood, then the whole country and nation. Now the frontier is reached: Englishmen are seen to be only one among many nations of men. The course of British history brings the pupil constantly into relations with foreigners, especially with Frenchmen, until, after Creçy, France claims as much attention as England. The pupil's interest is inevitably attracted to this foreign people: he is now ready to learn about their country: he will also learn the language which they made so popular in England, and which Englishmen have been so fond of learning ever since the days of chivalry.

We answer, thus, in general terms, the question as to the appropriate period for the commencement of a foreign language: *When the general scheme of study has brought the child beyond the boundaries of his native land.*

A modern language, and with us French, should precede an ancient language, not only because it *is* modern and colloquial, but because the capacity for realising an ancient civilisation, such as that of Greece or Rome, demands riper attainment than is requisite for sympathy and interest in the life of a contemporary nation. But the step from modern to ancient need not be long delayed, if from other motives it is found necessary to give great weight to Latin. French, however, should in any event precede Latin by twelve months, and if an interval of three years can elapse between the commencement of the one and the other so much the better.

The case of little children who acquire a second language in the nursery is exceptional. We have agreed that it is quite easy for an infant or young child to pick up a foreign tongue. Many children are bi-lingual from the first. English people who have never left England are surprised to hear of the many portions of the British Empire where some other language as well as English is a native tongue of the inhabitants. The Highlands of Scotland and Wales retain the Celtic tongues, French Canada its French, South Africa its Taal, India its countless Hindoo tongues—all these in spite very often of the pressure of public schools and of Government influence. If the provincial language meant nothing to those who speak it beyond an idle accomplishment, it might be right to repress it. But here, as everywhere, language is the expression of life, and the retention of a provincial speech or dialect is the best evidence of the tenacity with which any vigorous and patriotic community holds by its own life and modes of thought. Bi-lingual people should not be discouraged in their efforts to keep alive the traditions and virtues of their forbears: they *can* be all that the possession of bi-lingual speech *should* imply, at once provincial and Imperial. The speech of the Empire is spoken by them as loyal subjects in the great confederacy, the speech or *patois* of the province is retained as a sacred tradition of the home.

But the fact that a child can be made bi-lingual[1] without effort at home, is no proof of the necessity for introducing a foreign language prematurely into the school.[2] An English child who picks up French from a *bonne* or governess is too young to gain any understanding or sympathy with the French people: some trouble is saved, perhaps: the child will find his task made easier when the time comes to learn French at school. But such an occupation in infancy is not normal, it is not even advantageous if it involves any expenditure of time or energy, for the little child ought to put all his effort into occupations (Chap. VI) suitable to his age. The acquisition of a second language by infants can only be justified when it is achieved in the home circle without conscious effort on the child's part.

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[1] Among a bi-lingual people, neither the provincial nor the Imperial language should be regarded as "foreign," nor should either be classified or taught with foreign tongues. In Montreal, German and Latin are foreign tongues, but not French or English. But an adequate discussion of the problem of instruction in the two native tongues among people who are wholly or partially bi-lingual lies beyond the scope of this volume; the principles here discussed may perhaps be accepted as indications of the spirit in which that problem should be treated.

[2] It is rare to find a little child speaking *three* languages well. The effect of introducing a third is to spoil the other two.

We shall, then, fix the time for commencing French at any early date during this period—before the pupil is eleven years old; and since the beginnings of this art are so difficult (involving a resistance to habits of thought in the native speech which have been cultivated for eight years or more), we shall insist that a French lesson be given daily for at least the first three years. At the outset the lessons need not be prolonged: fifteen minutes will suffice, but nothing must prevent the repetition of this short lesson, day by day (*vide* Chap. V, § 2, and Chap. XV, p. 369).

The formation of a new habit involves physical and mental readjustments, and this cannot be satisfactorily accomplished, unless the new path is worn smooth by daily exercise.

In Chap. XIV we have offered an illustration of *Method* for the first term of teaching in a foreign language: a complete survey of the question would take us beyond the scope of this volume. So far as the principles underlying such a method are concerned, they are part and parcel of those general principles underlying the acquirement of all the arts which come before our notice in Chaps. XIV and XV. But the general law for the selection of the *Material* may be indicated in a few words. It takes its rise, as we have seen, from the desire to learn more about the French people. This idea gives the general aim and stimulus from the very first lesson. Since, then, the class are constantly recurring to France in all their Humanities work during this period, there is no difficulty in finding material suggested from the syllabus of study. The map of France, procured, of course, from a French publisher, and studied entirely in simple French speech forms, before the close of the first year, an important theme. Then a little ingenuity and dramatic realisation enable the teacher to work in many scenes of historic interest—the battle-fields of Creçy and Agincourt, the statue of Jeanne d'Arc, and so forth.[1] These are studied by the pupil with modern eyes, but in the tongue of France, and when he gets so far advanced as to be able to read a simple French narrative, he will be provided with a book which describes these events from the Frenchman's standpoint.

Such a plan answers the question as to the subject-matter, or Content, in the strict sense of the term. But since language *is* language, there is another kind of content, which may be called subjective-content, or, by preference, the Forms of the language. In acquiring the native tongue, the forms of speech are picked up by the infant without conscious effort, but the pupil at school cannot be trusted to do the same with a second language. Hence the syllabus of teaching must provide not only for a Content such as we have discussed, but for many lessons centering round the forms of foreign speech. For this purpose a book like Hartog's *Grammaire Française Elémentaire* (A. and C. Black, 1900, written wholly in simple French) may be employed after the first year of French.

These forms must be studied in the French language itself, otherwise the conflict of habit between the two tongues is maintained from term to term, and the class never attains to that stage where the instruction can proceed lesson after lesson without any interchange of thought in English. Experience shows that after two years[1] a class trained on these direct methods can be conducted day after day solely in French; and when this is once achieved, the class progresses at an intensive rate of speed.

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[1] See reference in Appendix, p. 418, and compare *Little French Folk* (The Norland Press, 1902).

Latin and *German* are left over for discussion to the next chapter.

The beginnings of Music. Until the voice breaks at the beginning of adolescence, no new problem arises with reference to singing. Pupils can now be trained to sing in two or three parts, and thus to acquire a taste for harmony. Song, now as before, is an interpreter of life, and if boys and girls are to care for singing in the mass, they must be permitted to sing about themes which appeal to them. It is certainly true that an acquired interest may now be created, among those who have special gifts for music, and such will sing[2] more advanced music which has only a slight relation to other interests in life. But the mass of boys and girls, like the mass of the nation, will only be found singing when the theme of the song appeals to their minds or hearts. Thus, in the field of intellectual interest, French songs will be welcome when a class has been taken in imagination to France, and has begun to realise that the French express themselves so differently from the English. If a class is studying the Tudor Period, then the Old Hundredth is surely in place. "*God Save the King*" can be sung always, but above all it should be brought to mind when a class is concerned with the eighteenth century, which it illustrates both in its language and its melody.

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[1] This is a very cautious statement: one year is nearer the mark with some teachers. Quite deliberately the present writer ventures to assert that the "reform" in Modern Language Teaching now in progress is one of the most noteworthy events in the sphere of *Teaching* since the Renaissance, surpassing in importance even the results of introducing Science to the school.

[2] And gifted children may be trained to play.

The strongest impulses to song are, however, emotional rather than intellectual, and the most appropriate themes must be sought in those vague and immature, but powerful, sentiments which lie deep in the minds of young people: love of home and country, love of school (if, indeed, the school society cares to cultivate the sentiment!), the more remote sentiments of delight in war, on sea and land. Songs appealing to such sentiments, and learnt especially for singing on appropriate occasions when the school society gathers for giving expression to its common life, will be welcomed with heartiness, and will exert an influence upon the disposition far beyond any result in musical technique such as a skilled musician would seek for.[1] A large *répertoire* of songs is needed, for if a song is used too often, it will soon pall on the taste, unless it be indeed a great song, both in Content and Form. And where are such to be found?

§ 6. *The Arts of Representation.*—The older a pupil gets, the more necessary it becomes to adhere strictly to the rule of sequence in all branches pursued in the school; and while in the previous chapter we were satisfied with indicating the need for correlation, and for a wide choice in the employment of materials, we must now go further, if we are to permit our class to spend time week by week on art lessons. We need a plan, analogous to the plans we have suggested for the Humanities Group and the Science Group, to cover this period of school life as far as the Arts are concerned. Now it is easier to point out the deficiency than to remedy it. Artists of distinction are not really interested in schools. They know that original, decisive power in art is not to be expected before adolescence, and since their own interests centre solely round the advanced work of the art-student and the trained artist, they care little for the pursuits of children. All the advice they give us is to see that children are allowed plenty of opportunity to draw and paint, what and where they like, and to see around them always what is beautiful and artistic: of periods of development from infancy to adult life they know and care nothing. More may be learnt no doubt from the syllabuses of Art Teaching drafted by the officials of State Departments or by teachers who organise special systems[1] fitted out with details of syllabus and apparatus, but these systems place little reliance upon fundamental principles of education.[2]

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[1] When this impulse to singing has once been aroused (by the selection of appropriate Content) then comes the musician's opportunity, for his pupils will be willing to take trouble now, and they may acquire a new interest in the technique of the art.

The defect can only be supplied when teachers of art, with real artistic instinct and training, are found willing to study child-nature and to work out schemes for art work in the school from this standpoint, regarding the child not as a precocious artist, but as a being with complex impulses and interests, of which the taste for representation is only one.

We do not, therefore, suggest any consecutive course of study for this period. The ground which *may* be covered is, indeed, large: designing, conventional or natural; drawing from objects; clay modelling; carving; and half-a-dozen other artistic pursuits may be taken up: thus, in default of any more precise guidance in theory, a school has to be content with what appears year by year to be most convenient.

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[1] Such as the famous ones of Prang in America, Flinzer in Germany, Ablett in England.

[2] An exception ought perhaps to be made in favour of the work of Mr. Liberty Tadd, in Philadelphia, U.S.A., which has been recently brought to the notice of English teachers.

Two facts, in the lack of any more definite theory, are quite clear: firstly, that boys and girls benefit by continuing their study of art right through school life; secondly, that every opportunity must be taken of associating this study with illustrative material taken from lessons in History, Literature, Science, as well as from the school environment.

For further guidance, based upon the study of art development in the human race, and in the growing child, we must be content to wait.[1]

§ 7. *Physical Exercises and Recreation.*—The period is now passed for simple romping and gambol. The school-boy and girl certainly need proper intervals between lessons, but they will seek of themselves a definite end for their recreation if it is not suggested for them. The instinct for imitating their elders continues, and what at an earlier period bore exclusively the character of *play* (*i.e.*, imitative production of the arts of bygone ages) now takes the character of Manual *Work*, imitating the work of men and women at the present day—in carpentry, or cookery, or needlework. Such pursuits are, indeed, a recreation from the severe intellectual studies involved in the preceding Groups; we have seen, however, that they must on no account be regarded as recreative, *i.e.*, restful, in the fullest sense of the term. Nor does there seem to be any valid reason for regarding these particular forms of recreation as essential to a liberal education.[1] So far as bodily training is concerned, lawn tennis or hockey will develop the eye, the wrist, the limbs, far better than the kitchen or the workshop. And we have repeatedly dismissed the arguments for Manual Training based on the faculty-psychology.

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[1] Among the Herbartians, Professor Rein, himself a student of art, has done much to combine his *System der Pädagogik* with real feeling for art. And much may be expected in time from Professor Dewey and others who conduct Experimental schools in the United States, for they are able to employ "specialists" in each branch of study, combining artistic skill with insight into Education (and cp. note to p. 12[illegible] above).

The true defence left to those who advocate these special pursuits, seems to lie in the direction of Ethics. Children cultivated in the exclusive intellectual or emotional atmosphere of school tend to be alienated from the common life of mankind, to despise manual toil, to ignore the daily round of drudgery which feeds and clothes and houses every human being. If carpentry and cookery can be so taught as to make boys and girls more ready to feel kinship with the multitude who toil for them, then they are indeed of value; but, if this saving social quality be ignored,[2] no special value can attach to Manual Training, unless it be introduced towards the close of school life under the plea of Equipment.

The one characteristic feature of this period, as distinguished from earlier days, is the development of impulse to games of contest, in boys earlier than in girls and more decisively all through life. The great school games, cricket, football, hockey, begin now, and opportunity should be made for them, as the most important recreations which the school can supply. They should certainly be preferred to Gymnastic or Rhythmical exercises. But even they must not be permitted to absorb the whole physical energy of young people. The growing nature demands, now as before, to be left alone at times, and to seek recreation in its own way without any direction at all.

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[1] It is noticeable that the occupations advocated so earnestly by Professor Dewey have only been worked out by him with young children as yet. It remains to be seen how far he will carry them into boyhood and girlhood.

[2] It is true that the *books* on Manual Training and Domestic Economy often express these sentiments. But the practice of teachers and of "Boards" is commonly in an opposite direction (and cp. p. 216, below).

§ 8. *The Time Table.*—Following on the plans proposed in the previous chapter, we may add half-an-hour (extending at twelve years of age to an hour) to the daily Time Table, and this extra half-hour may now be allotted to Home Lessons, instead of taking half-an-hour from the time given in School Lessons to silent reading (Chap. VII, p. 175, above).

A discussion of the value of Home Lessons falls outside the scope of this volume, but the topic is briefly dealt with in Chap. XVI.

As before, each main Group of Study requires repeated attention day by day. But the length of the lesson periods can now be extended in some branches, and the total time at our disposal (four and a half hours) should not be divided into half-hour periods so rigidly. Thus the first year of French teaching needs a short daily lesson of fifteen or twenty minutes, while lessons in Natural Science may extend over forty-five minutes or more.

We cannot, therefore, continue to adhere to the plan, which seemed necessary with children, of giving a daily lesson to each pursuit. On the other hand, we have time enough, or must make time enough, to give each branch which is taken up its fair allowance. A lesson every other day seems to be the minimum which should be demanded by any important pursuit, unless it is regarded as a subdivision of some larger Group, and taught in close association therewith.

Without attempting to draft a Time Table in detail, the following may be offered as a fair division of a school-day during this period. Supposing that six "hours" of forty to forty-five minutes are at the teacher's disposal, one each day should be given to the Humanities (History, Literature, or Geography), one to Language (the native and the foreign tongue), one to Natural Science, including gardening or other out-of-door pursuits, one to Number and Geometry, one to the Arts of Representation and Production, and one to Recreation and Music. If the Home Lessons are extended beyond half-an-hour, the extra lesson should be of a very light nature, such as drawing.

§ 9. *Summary.*—In taking a review of achievement during this school period, the teacher will again find that the pupil has made a definite stride, not only in acquiring useful habits (such as using books of reference) and tastes (for good literature, good pictures), and in knowledge (early history, elementary science, etc.), but in arriving at a new mental stage. He is fully habituated to the regular forms of school study and of school life. Every period, when passed by him with genuine success, enables him to enter on the next with greater prospect of achievement. "To him that hath shall be given."

During this period of school life we have reached the limits within which general education is given to all children alike, whatever their antecedents or whatever may be designed as to their future (see Chap. IV, § 5). Up to this point many children are taught together, some of whom will leave school in a year or two, others will remain till fourteen, fifteen, or sixteen, or even till eighteen or nineteen at some school or other. But we shall be compelled in the succeeding chapters to treat separately of the three types of schools differentiated in Chap. IV, and we shall take them in the order of the Table on p. 114, dealing firstly with the special needs of children who conclude school life before they are fourteen years of age: to these classes we have given the name "Special Primary Stage,"—they constitute the highest classes or years of the Primary School of England or the Continent, and are parallel to the "Grammar School" of the United States.

CHAPTER IX

THE LAST YEARS OF THE PRIMARY SCHOOL

The benefit to the country and to the individual is infinitesimally small, if the boy is unable or unwilling to be and to do in the larger sphere what he was and did in the smaller.—COTTERILL, *Suggested Reforms in Public Schools*, p. 106.

Quite as pressing, according to the evidence which we have received, is the need in country districts of giving a more practical direction to the school education.—"Report of Inter-Departmental Committee on the Employment of School Children" (Home Office : Parliamentary Paper, 1901).

§ 1.—WE have described this Special Primary Stage as consisting of a two years' Course, for boys and girls of the average ages of twelve to fourteen,[1] parallel to the Sixth and Seventh Standards of Codes issued by the Board of Education. Now it is clear that, if a curriculum be devised to suit the needs of this particular group of children, the classes ought to consist of these children *and of no other*. That is to say, the complete scheme of differentiation should be adopted whereby children after the Fifth Standard, who *intend* to remain at school beyond thirteen, are always drafted either to a Higher Elementary or to a Secondary School, leaving the teacher of those who are left behind, with only one type of pupil, viz. boys and girls who will remain with them at the outside for only two years more.

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[1] Many will, of course, be older, for it is usually the more intelligent (and therefore younger) children who have been drafted into the Higher Elementary or Secondary Schools.

But such a complete plan of differentiation can only be carried out in towns, for it is only in towns that a Higher Elementary School can be established with an adequate number of pupils; the village school must continue, now as always, to supply a variety of needs. And even in towns, it will take many, many years before all parties concerned—parents, teachers, authorities—understand the problem so well as to get the maximum of benefit from the three types of school.

Nevertheless, the advantages are so manifest that we are well justified in devoting a few pages to this particular type of curriculum, especially when it is borne in mind that in point of numbers the pupils will greatly exceed the total of all who proceed to Higher Elementary or Secondary Schools.

These pupils are still boys and girls, with all the marks of youth upon them: but they are already alive to the economic demands of their future career. Their wits are sharpened by necessity: at home they have had to help in domestic toil, and sometimes they have already learnt to turn an honest penny by work before or after the hours of school.[1] Thus, as distinguished from pupils of the same age in other schools, they are practical and "knowing," independent, and often assertive: ready very often to learn all that school can offer them, but quite as often turning an eager look towards the life of labour which awaits them.

They are waiting, then, to be equipped for life; and yet it is difficult at first sight to decide what equipment can be furnished, for the pathos of their situation lies precisely here: that they are about to join the *ranks of unskilled labour*, as labour apprentices, errand boys, domestic servants, and the like—service which, at its commencement, requires no technical equipment whatever. This is, indeed, one reason why the curriculum of Standards VI. and VII. is still treated by Government as a part of general education, simply serving as a continuance of Standard V. These pupils, it is said, need *no* special equipment, for their future calling in life makes no such demand upon them: hence the best curriculum is one which is purely liberal, and which offers them the highest and the best during the short year or two which remains.

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[1] *Vide Home Office Report* quoted above.

But, as we have seen again and again, no scheme of liberal education is complete if it fails to take account of the nature of the pupil; and a boy or girl, standing already half-way on the threshold of "life," cannot take the same interest in academic pursuits as is expected of those who are to abide cloistered within the school for several years.

We propose, therefore, a curriculum which is essentially "liberal" in character, and both ethical and intellectual in its aim, but which is calculated to attract the special regard of those who follow it, because of its outlook on their immediate future.

§ 2. *The Humanities.*—The underlying thought governing the curriculum will be—the world we live in: and the Humanities will be selected from the History of Queen Victoria's reign. The story is read in the best literature and poetry, and, arising out of the main theme, there are two branches, one affecting the pupil as a coming citizen, the other affecting him as a bread-winner. On the one side, he learns the elements of politics, local and Imperial: he visits the Town Hall, the Courts of Justice, studies specimens of official documents, and learns the meaning of official terms. (The reading of *books* on Civics cannot answer the same purpose, although the best of these may serve admirably as supplementary to the instruction.) The great days of the civic year—the opening of Parliament, birthday of the Sovereign, election of Mayor and Corporation—are utilised to the full. The pupil may even be set to read cuttings from the daily papers, not for police or sporting news, but for information about events in which he, as a member of the community, is going to have a share. On the other side, he studies the development of industry and commerce, particularly in relation to his own neighbourhood, making visits where possible to workshops, factories, or shipyards.

His studies in Geography fit in with the rest. He draws maps of England at different periods during the last century: of those portions of the world which are particularly concerned in the industries of his own town and county: of the new Australian Commonwealth: of China and Japan in their latest phases.

It need scarcely be added, that, along with these civic and economic studies, the curriculum will not fail to exhibit the history of the time in its best moral aspects—the development of religious agencies, and of philanthropic activities.

§ 3. *Natural Science.* — During previous years the pupil has laid a foundation, by practical work, in Nature Knowledge, Physiography, and Physics, for scientific habits of thought: he must now use and extend these in directions which will help him to understand the part played by the great sciences, Chemistry, Physics, Biology, in everyday life. The correlation with his study of Queen Victoria's reign lies to hand. He takes up in turn the great inventions, beginning with steam and ending with electricity: in connection with each of these he does some simple piece of practical work,[1] and the teacher extends his observations still further by means of demonstrations. It is obvious that these studies cannot be conducted by the "heuristic" methods of discovery and research: much must be treated empirically: much must be told, much taken for granted; but the teacher will never suffer his class to lose sight of the method by which discoveries have been made, and he will seek to leave a portion of the study to be actually worked out by the unassisted efforts of his pupils.

From the Biological Sciences he will select *Human Physiology*,[2] as having the most direct bearing upon the personal needs of his pupils, and he will connect it with the study of Sanitation and Hygiene, sciences which are as much the product of the last century as are the great inventions in motor power.

§ 4. *Mathematics.*—The studies in Natural Science above described lend themselves at every turn to quantitative treatment, and therefore many hours can be spent in working out problems started by the science teacher. If Algebra has already been commenced, then it should be utilised in the same connection; otherwise it will not be found of much service (see Chapter VIII, p. 189).

Here is also the time for acquiring skill in the calculation of money. We rejected this study in an earlier chapter (see Chapter VII, p. 162), relegating it expressly to the closing years of school life. Rapid mental calculations in making up bills, combined with the study of simple transactions in retail book-keeping, will now be of practical interest to the pupil, for his mind is already turning towards a career in which such knowledge is essential. It is not too much to say that any boy or girl who is set to help in retail trade at fourteen years of age, would find his or her value doubled if he knew how to keep a cash-book in order, and how to check invoices with rapidity and accuracy.

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[1] It is true that laboratories are not yet provided for elementary schools; but practical exercises in some form or other cannot be dispensed with.

[2] Findlay: Training of Scholars in Hygiene (*Journal of Sanitary Institute*, April 1905, Edward Stanford).

§ 5. *The Arts of Expression.*—In the previous chapter we have discussed the conditions under which the study of a foreign language should be begun, and we did not raise the question as to whether it should be excluded from any particular type of school. There is nothing in the nature of the study itself to make it unsuitable for children who leave school at fourteen. The intimate relations between native and foreign countries make it almost necessary for every child to be trained with some understanding of the meaning and purpose of foreign speech, even though he cannot go far enough to make use of it. And wherever a population is bi-lingual, as in the country districts of "the Celtic fringe" in Great Britain and France, in Alsace-Lorraine, in French Canada, in South Africa, it is an obvious duty to cultivate within the school the two speeches and forms of culture which are found to exist in the community around.

Further, in any district or country, such as the smaller countries of Western Europe—Norway, Holland, Switzerland—where the national tongue is little more than a dialect, it seems necessary to give a prominent place to foreign speech in the humblest type of school.

But the question is not so easily answered in a country such as England, where the native tongue is sufficient for all purposes, both of Equipment and Tradition, so far as the needs of the children before us are concerned. For such children are commonly behind others in the mastery of their own language. The fact that they are about to leave school at fourteen indicates their deficiency in general culture: the most capable children have been drafted off to Higher Elementary or Secondary Schools, and these are left behind, either because they are backward in natural gifts, or because their home environment has hindered their progress.[1] Hence it would be a mistake to introduce a second language, unless it was proved that the pupils had gained a thorough mastery over the native tongue: the safer course would be, in most districts of England at the present day, to spend these remaining years of school life in the reading of sound modern literature, bearing upon the various studies described above, in learning by heart passages of great merit, and in writing essays upon themes arising from these topics. (Compare Chap. VIII, § 5 (1).)

Instruction in language "forms" (spelling, word-building, grammar, etc.) should not be prescribed or determined upon in advance. Such studies, as we have seen, are not essential to success in the common arts of speech, and since the time is so short, it is doubly important to utilise what remains for the highest ends of education.

Music.—Continuing what has been suggested in

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[1] It must be kept in mind throughout that the plan of Differentiation discussed in Chap. IV, *assumes* that facilities are offered by public enactment for *every* child of adequate ability who desires to enter a Higher Elementary or Secondary School to gain entrance, without hindrance from lack of money for school fees.

Chapters VII and VIII, the demands of Equipment are not so imperative as to prevent these boys and girls from singing with their comrades so long as they remain at school.

§ 6. *The Arts of Representation.*—Both from the standpoint of Equipment and of Child Nature, it is imperative that a large place should here be given to these arts: for (1) these boys and girls have often failed to advance to some higher place of education because their minds fail to respond to intellectual stimulus, while answering readily to direct sense-apprehension; and (2) the various callings which they are about to enter will all of them offer facilities to those who have formed habits of taste in relation to the common things of every-day life.

On the one hand, therefore, the teacher can select courses of study, such as Conventional Designing, which have a close relation to home industries: on the other hand, the studies in Natural Science offer abundant materials for freehand and geometrical drawing.

§ 7. *Physical Exercises and Recreation.*—As the pupil advances in years, he delights more and more in Games and Contests; he cannot be denied a share in these on the plea of Equipment, for his physical nature cries out for such exercise, and if, after leaving school, his employment will keep him at work from Monday morning to Saturday night, he should, at any rate, have the chance of free vigorous exercise for another year or two. But the Imitative Exercises are even more important. If this type of pupil, as we saw in the last paragraph, gains culture more readily through sense-observation than through intellection, he will make most progress of all by means of practical arts which have relation not only to his motor activities but to his social environment. Now, if ever, is the time for him to combine intelligent thought with daily practice in those homely industries upon which so much of the happiness of humble homes depends ;—the use of tools, in the garden and the workshop ; the preparation of food ; the care of clothes and furniture. Much of the study in Natural Science which we discussed in § 3 above, depends for its success upon its correlation with practical work.

Unhappily, it seems very unlikely that the present generation will witness any approach to these pursuits in the elementary schools. Instead of being taught at school to love and honour manual toil, the whole atmosphere of the class-room *in practice* is, to teach the opposite. Everything of a manual nature is done *for* the child as soon as he enters the school doors. *In spite of the desire of many teachers to* maintain harmony between school and home, a great gulf has been fixed between the intellectual, scholarly, clerkly attitude of the class-room, and the rough, physical, drudging life of parents at home. Until children who go to school learn their Domestic Economy and Hygiene by practical service in the care of their own school-building, they will never learn the moral lessons which the school-books on these subjects discourse upon. These lessons have, indeed, precisely the opposite effect : the child comes unconsciously to take the attitude of the luxurious classes ; he is content to read and think about Hygiene and Domestic Economy, leaving his parents to do the drudgery of toil in these matters. And his parents would be the first to object, if school authorities proposed to make children share in the cleaning and adornment of their own school !

A proposal, which seems impossible in the case of an ordinary Elementary School may perhaps seem to be easier of adoption when it is found to be carried out with success in schools of a similar type. There are a certain percentage of children whose nature resents so bitterly the intellectual discipline of the ordinary school that they flee from it and seek to play truant: unless they are restrained from further wandering by the influence of home, they become confirmed truants, and as such are dealt with by the magistrates under the direction of the Home Office. They used to be always sent to Truant Boarding Schools, but of late years the experiment of Day Industrial Schools has been tried, and has proved a remarkable success.[1]

We are only here concerned with one element in this achievement:—the striking advantage gained by the adoption of a curriculum which would be scouted with contempt by the ordinary Elementary School, but which appears to be happily adapted to the needs of the pupils. For half the day the pupil is engaged on the subjects of the Code, being taught pretty much as in the ordinary school, being examined and inspected year by year by Inspectors from the Board of Education. But for the rest of each day he is employed in practical useful work, which has an obvious end towards the benefit of himself and his fellows. The pupils keep the whole building clean; they cook the meals; at one school they do laundry work, not only for their own building, but for the London School Board Offices; and they find time also to learn the beginnings of some useful trade, such as shoemaking. This curriculum is not perfect, for there is no correlation between the work done for the Code and the practical industrial work, but the wonderful success achieved, especially in relation to Code subjects, ought surely to convince the managers of Elementary Schools that the same principles of teaching ought to be applied to the "good" children as well as to the "bad" ones! But it will be many, many years before the evil spirit of contempt for manual toil combined with worship of intellect is cast out from the realm of Education.

There are some, however, who admit the importance of this argument, but they urge that it should be applied rather to the children of the wealthy. The children from humble homes are already, they say, brought into constant association with domestic toil:

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[1] Annual Reports on these Schools, presented annually by the Inspector appointed by the Home Office (Eyre and Spottiswoode, 4½*d.* or 6*d.*).

why should they find a repetition of it at school? it is your luxurious, over-stimulated child who needs to learn how to clean a floor and light a fire. This is, indeed, true enough: if it were not for some healthy traditions in the Anglo-Saxon race, which keep alive the practical temper of the pioneer among families of birth and wealth, the condition of luxurious Englishmen would long ago have become desperate. The present writer is not the first to protest against the departure from earlier traditions of simplicity and hardihood in English Public Schools, a departure encouraged by the parents whose children attend these schools.[1]

But our present concern is with children at the opposite pole, and their misfortune is equally great, if the argument we have offered is sound. For these children, by the very atmosphere of their school life, are alienated unconsciously from sympathy with manual toil: they are inclined to picture the educational ladder as an emancipation from the vulgar life of their parents—a ladder which they may kick from under their feet if they can only climb to the summit. The Elementary School of the nineteenth century has in all countries created a gulf between the pursuits of home and the pursuits of school which must somehow be bridged over.[2] The home has, indeed, come much nearer to the school: culture of many kinds is now found in multitudes of lowly homes; but the school must approach the home and the shop: it must place itself on the level of toiling, drudging lives, not in order to "keep down" the working classes, or destroy that divine discontent which is the salvation of every struggling soul, but to reconcile the sore conflict between toil and mind, between the drudgery of machines and the leisure [1] of schools.

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[1] See Cotterill, *Suggested Reforms in Public Schools* (Blackwood, 1885).

[2] No one is more conscious of this than some of the teachers of whose experience the present writer has been able to avail himself.

To achieve such a purpose will indeed be the most glorious educational "result" of the new century; and it must be achieved if the social storms of the coming years are to be safely weathered. The rising generation have had put into their hands the noble but dangerous gifts of thought and knowledge, and for the moment they are content; for in these prosperous years, when our kine are fat and well-favoured, they are well-content, for they can find bread to eat, with some leisure also in the day for recreation and thought. But when the evil days draw nigh, the years of famine, then the dangers of a partial education will begin to show head! The many-headed multitude, who have entered the gates of Knowledge, and have been taught to despise the hard necessities of toil, will rebel, as already they are rebelling in Germany, against destiny; and a revolution may be threatened, not by a proletariat, as once in Paris, hungry for bread, but by a far greater multitude, whom bread alone does not satisfy, even if that is abundant.

These fears and threats are vague and distant: but the danger is apparent to all who recognise the discord between the ideals of the school and the hard necessities of toil in the home, the factory, and the sale-room.

While, therefore, from many points of view, we admit the necessity for providing comfort and enlightenment in the school to compensate for the dreariness of the home and the trade: while we encourage the aims of those who adopt a system of teaching which lies absolutely apart from the external environment, we would urge that this charitable intention has its limits. In teaching, as in other arts, "that is best which lieth nearest." The curriculum must be such as shall "come home to men's business and bosoms." If your school is in the country, and your pupils are going to live on the soil, then let them, while at school, learn to appreciate both the severity and beauty of Nature: let them become intimate with the thoughts and feelings of those who work at the plough: make the transition easy for them between the thoughts of men and the solitude, the hardship, the poverty of toil in lonely fields. This is surely the true method for preventing that disastrous exodus from country to town which every one has deplored since the advent of the railway.[1]

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[1] σχολή.

The country school should surely be a picture of all that is best in country life: it should have its garden, its pet animals, its bees: it should help its scholars to find a joy and pride in labour in the open air. If every cottager has a garden, that is a reason, not why the school should ignore the garden, but for it to have a better and a brighter garden than them all, cared for by a crowd of willing youngsters who are taught to take a pride both in their home and in their school.

The task is more difficult, and yet more necessary, for the crowded children in the streets of cities. The gulf between school and the world outside will be bridged by introducing freely into the school, especially for these last years of school life, the labours of the home and of the workshop. Teacher and child will then stand in closer sympathy with the life of parents, and with the dreary round of patient toil which now, as in older days, bears on the human race.

Towards such a reform many influences are combining. The teachers in the Primary schools are themselves, often unconsciously, working towards it. They are themselves sprung from "the people": their progress is, indeed, hindered by systems of "Training" which, to a quite appalling extent, hold still by the shell of ancient rules from which the spirit has departed: but, in spite of all, they are the friends of children, and they know the needs of their young brothers and sisters. The zeal with which they have taken up Manual Training and Kindergarten occupations is a proof that they will be ready to go further when the door is opened for more thorough reforms.

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[1] Recent instructions issued by the Board of Education are full of encouragement in this direction.

We have not attempted in this chapter to enter into as much detail as in the previous chapters, except on those points which need emphasis in connection with the *special aim* of these classes. Much that has been said there would only be repeated here, if we had sketched a complete scheme of studies. Our special purpose has been to lay all possible emphasis on the *standpoint* from which these closing years are to be regarded, and to indicate the main changes in curriculum which the adoption of this standpoint involves.

CHAPTER X

THE HIGHER ELEMENTARY (HIGHER PRIMARY) SCHOOL

That which the school ought to develop, before all things, in the individuals whom it trains is, as has often been said, the man himself, that is to say, heart, intelligence, conscience. Nothing could be more true ; but, it must never be forgotten, at the same time, that, if the individual is afterwards to be a manual worker, whether in the fields or in the workshop, the first and best safeguard that our schools can give, for the morality of the man, is to create in every scholar an aptitude for, and a liking for, that labour by which he is to live.—LE BLANC. Quoted from *Special Reports on Educational Subjects*, Education Department, 1897, on the French System of Higher Primary Schools, by R. L. Morant. The whole article is of the highest value in connection with the topic of this chapter.

§ 1.—MUCH in these chapters will appear to the casual reader to be waste of words, for they contain many novel proposals outside what appears to be possible in the current practice of the schools. Nevertheless, it may be asserted with confidence that nothing is here suggested which is visionary: illustrations might be offered, if space permitted, of places where these proposals are being carried out, and the real task which the present writer has set himself is, not to sketch a theoretic system of his own, but rather to *collect* together suggestions offered from a variety of sources, and then to bring these together into a systematic body of thought.[1] Thus, with reference to the topic now before us, the "Higher Elementary School" is a term which has only recently been adopted by Government, and it will take time before the idea underlying this type of school is understood by the nation at large; nevertheless, it is accepted on the Continent as an indispensable feature of a national scheme of education; and if in England the same thing has not been done under that name, something similar is found in most large towns, where Higher Grade Schools in varying forms have been established.

Let us reconsider the essential aim of this type of school (Chapter IV, p. 111). It is designed to cover a four years' Course, receiving children from the Primary School at about eleven years of age, and parting with them about the age of fifteen. They are separated from their comrades in the Primary School, because either their own ability, or the design of their parents, holds out the hope that they may enter upon employments requiring more intelligence and skill than those followed by the pupils whom we have considered in the previous chapter.

The scheme of study will therefore be governed by three considerations:—(1) It is a sequel to what has gone before: the curriculum must start where we left off in Chapter VIII, and any school of this type is bound to plan its course of study in close association with the ground already covered by the Primary Schools of the neighbourhood (Sequence). (2) It is presumed that pupils enter this type of school because they are more capable and more likely to make rapid progress than the children who are left behind in the Primary School (Child Nature). (3) The curriculum of the last two years must be especially planned with a view to future callings in life (Equipment). This last demand seems to offer difficulties, since the older our pupils become the more varied are the callings which are open to them, and the distinctive demands made by these various callings are both more pressing and more specialised. The differences, however, at this period are greater in appearance than in reality. If we make a list of all these employments, we shall find, that, for the purpose in hand, they fall into two main divisions: (*a*) the mechanical and scientific (workshop); (*b*) the official and mercantile (counter and desk). The foundation required for the one is to be sought in mathematics and science, with workshop practice; for the second in modern languages and in "commercial subjects." And, further, since all these employments are associated together as a part of the entire industrial life of the community, they must not be kept too rigidly apart: that is to say, the pupil who "specialises" for office life ought to know something of mechanical pursuits also; and the skilled artisan will be all the better for some acquaintance with accounts.

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[1] *Vide* Preface

Hence, our scheme of study should be fairly clear. During the first two years all pupils will take the same Course, which will be wholly directed towards "liberal" studies, but also will prepare the pupil for the next two years, during which parallel classes will need to be established. In half of these special attention will be paid to scientific pursuits, while in the other half modern languages and commercial pursuits will take the chief place.

To make this more definite, let us suppose that we have some thirty-three periods of study to allot during each school week. We might divide as follows :—

First and Second Years :—

- 9 to Humanities and English Language.
- 3 to Science.
- 6 to Mathematics.
- 6 to French, or other foreign language (not *and* :—only one language can be attempted with thorough success).
- 6 to Arts of Representation and Production.
- 3 to Recreation, including Music.

Third and Fourth Years :—

(*a*) Scientific Side—

- 6 to Humanities and English Language.
- 12 to Science and Mathematics.
- 3 to French.
- 9 to Drawing and Workshop Practice.
- 3 to Recreation and Music.

(*b*) Commercial and Civil Service Side—

- 9 to Humanities—including Commercial Geography.
- 9 to French and English Languages.
- 6 to Commercial Studies (Bookkeeping, Shorthand, etc.).
- 6 to Mathematics and Science (including Commercial Arithmetic).
- 3 to Recreation and Music.

§ 2.—The Course for the First Two Years is wholly one of general education, and should differ only slightly from the course pursued during the same stage of school life in the Secondary School.

We have discussed this Course of Study in Chapter XI, §§ 3 to 9. It is there planned as extending over four years instead of two, but that discussion will serve as an indication of principles for the selection of Material in these first two years of a Higher Elementary School.

The difference between these two is to be sought rather in details of syllabus than in the allotment of time given to each branch. For example, the Science, the Mathematics, the Drawing, and Manual work would all be conducted as an introduction to the more specialised pursuits of the last two years, whereas these same branches in the Secondary School would be pursued as the foundation of an extended programme reaching over six years or more.

But these differences in detail would take us beyond our present limits, and we may pass to the consideration of Courses necessary for the last two years, referring the reader to the next chapter for a discussion of the requirements of children between the ages of eleven and thirteen.[1]

§ 3. *The Mechanical or Scientific Class.*—The syllabus of the schools which till recently were called "Division A" Secondary Schools[2] offers a fair parallel in its "Elementary" portions to what is here proposed, and this has become so familiar that it is unnecessary to dwell upon it at any length. It is, perhaps, more important to emphasise the value of the minor portion of the curriculum, in Humanities and French (or German), which needs still to be carefully fostered.

The form of Concentration, which has kept its place with diminishing force since the period of childhood, is now wholly abandoned. The pupil's interest is taken up with pursuits which find their centre outside the school walls.[1] The time devoted to Art, to Humanities, or to a Modern Language, takes rather the nature of a supplementary pursuit, which he will, it may be hoped, carry on for himself in later life, by way of recreation and change from the absorbing duties of his calling.

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[1] It follows that in very small towns, where the pupils attending the Secondary School are very few in number, one institution may serve the purpose both of Higher Elementary and of Secondary Education for the first two years of the Course.

[2] See Regulations for Secondary Schools (Board of Education, 1904).

On the other hand, the fact that the time is approaching for leaving school suggests the importance of studies similar to those we have described in the last chapter—in the History of the Nineteenth Century,[2] in its political, literary, and economic aspects. The study can be undertaken more thoroughly than was possible for the younger type of pupil: the reading can be far more extensive, and the range of ideas worked out on a more elaborate scale, but the general motive for the whole study will be the same.

It would serve no useful purpose here to work out schemes in detail for the curriculum either in this or the other branches. The task set before the teacher in such a class is to create first of all a field of interest centering round the workshop and the laboratory in their relations to workshop industries, and to associate with this an interest in the humanistic branches of the curriculum—the Humanities, the French Language, Drawing, and Music, in relation to modern life.

§ 4.—The Commercial "Side" or class looks to similar principles as the basis of study, substituting the office for the workshop.[3]

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[1] The ethical demand for Concentration (Chap. II, § 7) is still met, but the centre of the circle must be shifted, as the pupil's outlook on life alters.

[2] P. 210, above.

[3] It is superfluous to refer to the many reports on Commercial Education which have emphasised the importance of Courses of Study of this type, similar to those found

The course in Languages demands a large amount of time, for it is through Expression, in speech and writing, that the ends of commercial intercourse are sought. Forms of commercial correspondence in the two languages, and *précis* writing, take up time in addition to the ordinary exercises in composition.

In Humanities, the class will make a study of Geography, especially in relation to the exports and imports of the district. A large modern atlas will be constantly in use until the pupil has thoroughly learnt the habit of consulting the map whenever he needs geographical information.

The strictly "commercial" studies, in Bookkeeping and Shorthand, will now demand attention. The pupil cannot, at school, learn the special methods of the accountant, but he can learn how to keep a simple set of "books";[1] and his course of two years in Shorthand will take him far enough to enable him hereafter to attain a high rate of speed, if he finds such skill to be necessary. Commercial men tell us that it is not always an advantage to a boy to enter an office with a knowledge of shorthand, for he may be found so useful as a letter-writer that he may be

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on the Continent, both for Higher Primary and Secondary Schools and for students at College. The first of these was presented to the London Chamber of Commerce in 1887. The last, issued from Edinburgh, is perhaps the most valuable of all, and is likely to be really productive.

[1] A recent experiment is worth reporting. It has been found in a Secondary School that pupils who work at Bookkeeping fail to get a real grasp of interest in it, so they are placed in charge, under direction, of the "Books" of the Games Committee and Stationery Office, covering sums amounting in the gross to £200 per annum. The plan has succeeded. The transactions are entered on a simple Double Entry system by the pupils, who realise, by practical office work on this small scale, what the entries mean. For they have a personal interest in the transactions which they record.

kept at shorthand all his life, and gain no other form of experience! At other times we are told "that shorthand and type-writing are the only essential acquirements" at the outset of a commercial career. The truth lies, perhaps, midway: shorthand is, under any circumstances, a useful tool, and a moderate attention to it during the last year or two of school life will not be regretted by a business man in future years, even if he does not make daily use of the acquirement.

The course in Science should follow somewhat the lines laid down for the junior classes of "Handelschulen" in Germany.[1] The merchant does not need to enter the workshop or the laboratory, but he needs a surface knowledge of the products of the soil, and he connects this knowledge closely with his commercial geography. The typical articles of the world's industry—coal, iron, cotton, wool—are treated in turn: samples at different stages of growth or use, are exhibited and handled, the typical processes of acquiring power—steam, hydraulic pressure, electricity—are also taken in turn, and examples of their application are observed in working. A scientific man may despise such knowledge as lacking in thoroughness, but it *does* represent the kind of knowledge which a successful merchant has to pick up for himself; and the school may *start* the pupil on this road to success.

The Mathematics will be concerned mainly with practical *applications* of Arithmetic, Algebra, and Geometry, so far as these may be discovered by the teacher. The Civil Service requires skill in "tots";

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[1] They use the term "Waarenkunde" (knowledge of wares) to describe this particular form of Natural Science—see Reports on Commercial Education in foreign countries, everywhere.

the accountant needs to become rapid and accurate in all problems connected with money. Here, as in the closing years of the Primary School, place will be found for attention to problems in money. All those portions of applied Arithmetic (Interest, Discount, Stocks, Shares) which have hitherto usurped so much time in the scheme of *general* teaching, now find their proper sphere (see p. 162, above).

Thus it appears possible to equip boys and girls to take up, with more intelligence than hitherto, that vast range of pursuits offered by the Post Office, and by all the lower departments of the Civil Service; as well as in the multitude of offices and shops, which necessarily absorb so large a portion of the so-called middle-class population.

Such a curriculum does not, or need not, degrade either teacher or pupil. If these pursuits are necessary to the pupil to aid in an honest and active career, they are worthy and moral, honourable alike to teacher and taught.

And it is better, for the pupil, for his character as well as for his studies, that he should acquire these special branches of knowledge within the environment of a school, controlled by the higher aims of education, rather than in the class-rooms of a private coaching establishment.

This chapter may be usefully compared with the Report of the Consultative Committee on Higher Elementary Schools (Board of Education, 1907).

CHAPTER XI

THE CURRICULUM OF THE SECONDARY SCHOOL

The besetting faults of youth appear to me to arise mainly from its retaining too often the ignorance, selfishness, and thoughtlessness of a child, and having arrived at the same time at a degree of bodily vigour and power, equal, or only a very little inferior, to those of manhood.—ARNOLD OF RUGBY, from *Sermons preached in Rugby Chapel* (Vol. IV, No. II.).

Probably the most important changes for the educator to study are those which begin between the ages of twelve and sixteen, and are completed only some years later, when the young adolescent receives from nature a new capital of energy and altruistic feeling.—STANLEY HALL: *The Pedagogical Seminary*, Vol. I, p. 205.

During the last ninety years, the secondary education of Prussia has been directed by a succession of statesmen of pre-eminent ability and served by a body of devoted and highly-qualified teachers. The efforts of these men . . . have been concentrated on the production of a very high standard of educational discipline. In this work they have always given at least equal pains to thinking out beforehand exactly what they wished to do, as to the actual carrying out of the plans so formed. . . . Each kind of school has been set to do its own work. There has been no payment according to results, or special endowment of one rather than another branch of the curriculum.—M. E. SADLER, in *Special Reports on Educational Subjects*, Vol. III, p. 246. This comprehensive review of Prussian Secondary Education is indispensable as a guide to the problems proposed in the following chapter.

§ 1.—WE now resume our scheme for sequence of studies where it paused at Chap. VIII. We have planned all these suggestions for a curriculum with the idea of dovetailing, as far as possible, the curricula of the four types of schools, so as to minimise the mischief of transference from one school to another. It is obvious that such a dovetailing of curricula is not likely to be completely adopted at the present day, but it may be partially adopted, and it is the business of practical teachers to bear in mind the importance of the question when organising Courses of Study. It would, however, be quite as mischievous an error to press our anxiety for such dovetailing of curricula to an extreme. Each type of school has its own functions, independent of institutions from which its pupils come, or of those to which they may proceed. This is especially important for the kind of schools we are now to consider: the curricula discussed in Chaps. IX and X were strictly continuations and completions of pursuits commenced in the Primary School; but in the Secondary School we have to devise plans for children many of whom have never passed through a Primary School. All we have to ensure is that the early years of the Secondary School curriculum shall be so planned as to make it comparatively easy to effect the transference of able children from the Primary School, and for this purpose to watch (1) that the new branches of study (such as Latin or Natural Science) are commenced sufficiently late to enable these children to commence with their new school-fellows; (2) on the other hand, that the child does not mark time during his first years in the Secondary School, by simply revising studies which he has spent adequate time upon already in the Primary, or Preparatory, School.

§ 2.—We treat, then, the Secondary School, not merely as an "Intermediate"[1] institution to provide for an intermediate stage between the Primary School and the University, but as standing on its own footing, and achieving its own aims, side by side with its duties in relation to the Primary Schools or to Universities.

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[1] The term employed, with this intention, in the Welsh Intermediate Education Act.

We have already indicated these aims in Chap. IV, as based, firstly, on the nature of the pupil, secondly, on his future needs. Our pupil is to take a six years' course, carrying him on to the period of adolescence. He is to remain *in statu pupillari*, while others are already "out in the world" as bread-winners. And this circumstance constitutes a striking feature in his growth—he will *grow to adult life more slowly*. He comes under the same law which is observed, in races as well as in individuals, as culture advances—a child who becomes at an early age a bread-winner, who ceases early to receive culture, and begins early to exercise independent activities, reaches puberty at a somewhat earlier period, and in consequence reaches the summit of his own mental development at an early period. Hence the Secondary School might be described as an institution especially adapted to care for those who will develop more slowly and grow to a larger, broader stature of mental development, than would be possible for them otherwise. And from this it follows, as an important, though disregarded, principle in the curriculum, that the ground should be covered slowly, that no haste should be displayed in commencing new studies, that the education should, here as in all its parts, be "liberal," liberal in its scorn of haste—raw haste, half-sister to delay. But if this leisure[1] is one mark of a good Secondary School, no less important is that aim which we discussed at length in Chap. IV, of provision for the future career of the pupil. For the pupil becomes old enough while at school to exhibit definite qualities, which indicate to some extent the career for which he is fitted. Parents cannot, indeed, safely pay heed to the actual choice of a career made by a boy or girl before fifteen, but the evidences of capacity and taste shown (not only by such choice, but by a hundred signs and indications afforded at school and at home), these, as a rule, enable the school to plan a scheme of study for each pupil to which he will respond. For, even though the actual choice [1] of a career made by the young pupil be foolish, the cardinal fact is that the pupil has his eyes open to life, and, although so immature, he demands exercises which bear upon life. He feels that his special aptitudes,[2] whether literary, scientific, mathematical, or constructive, have a claim upon him; and he will eagerly throw his energies into such special directions. The adolescent must be treated according to his nature—he must have a full and varied field for exercise, a field which to some extent he may feel to have chosen for himself, although in reality he is still under governors and tutors. Thus our demand for "Specialism" in the later years of this type of school is put forward, not in antagonism to the claims of a noble, liberal education, but because these special studies, to the adolescent as to the adult, if pursued in the right spirit, are "the natural means"[2] to a liberal education.

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[1] σχολή.

§ 3.—We indicated in Chap. IV that we should divide the years of the Secondary School into two portions, analogous to those adopted for the Higher Elementary School in the last chapter: (*a*), a Four Years' course of purely "general" education, followed by (*b*) courses of two or more years in which the curriculum of each pupil is specialised according to his needs. The first of those will mainly occupy our attention.

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[1] Stanley Hall and W. H. Burnham on Adolescence (*Pedagogical Seminary*, Vol. I, pp. 174 to 210). This and other numbers of Stanley Hall's periodical are of special value to Secondary teachers in relation to the study of adolescence.

[2] Geo. Smith on Specialism (see Chap. IV, p. 106, above).

The Humanities: History.—In Chapter VIII we sketched a three years' course of study in History to cover the main topics in the story of our own race, as far as Waterloo. We followed this up, in the Elementary School curricula, by studies in industry, manufacture, geography, politics during the last century.

This programme, however, would be unsuitable for our present purpose. It would be fatal to assume that the pupils who enter the lower Forms of a Secondary School have mastered the story of the English people, or even, if they have learned some portions of it, that they are now ready to proceed to other fields of Humanistic study.

We ought, however, to expect that those portions of early history which are especially adapted to young children[1] should have been taught at the proper period, and if any sacrifice has to be made, the earlier portions of English History, up to the close of the Middle Ages, should be omitted from the programme rather than the later.

During these four years, however, the pupil, even if he has studied very little history before entering the school, may be expected to extend his range beyond his own country. It has been a reproach to English schools, in contrast with those of many foreign countries, that our survey of human progress is too insular. Our pupils nowadays leave school fairly acquainted at times with English history, but they have never been taught to bring this into relation either with Ancient History, or with the fortunes of other European countries in modern times.

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[1] p. 179, above.

We may, therefore, propose some such course as follows:—(i) English history (dealing with later times rather than with earlier, if a sacrifice has to be made of part) for the first two years, and perhaps for the third; (ii) a course in Ancient History, occupying twelve months; (iii) either as a sequel or as an alternative to (ii), a course in Modern History, dealing with the chief epochs and events since the fall of the Roman Empire.

Another (iv) may be suggested, similar in scope to the Course suggested in Chapters IX and X, treating of English History during the reign of Queen Victoria. If this be taken up, it ought, however, to come late in the school course, for reasons already offered.

The suggestion as to Ancient History may be illustrated by example of the syllabus given in the Appendix (p. 420) which has been taken as a "subject" for the Junior Certificate of the Central Welsh Board during recent years.[1]

It will be observed that this is not only a syllabus in History, but in Geography also,[2] and we may at once notice the correlated scheme in English Literature, also offered as an "Alternative Scheme" by these same pupils (Appendix II.).

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[1] By a most fortunate regulation, this Board permits the schools to offer "Alternative Schemes" of study, in any subject prescribed by the schedules, to replace the period or other details laid down by the Board. This regulation offers a capital opportunity for experiment and progress in the higher as well as the lower Forms of Secondary Schools in Wales.

[2] Not under the Central Welsh Board's regulations, however, which treat Geography mainly as a Science.

This literature is not "classics" nor is it intended to be—it does not even carry the pupil so far into the spirit of classic times as he is carried into the spirit of Hebrew times by his study of the Old Testament, for the Authorised Version is a faithful translation, whereas these poems achieve nothing more than a presentment of the effects produced on the author by his study of Greek and Roman life. Experience, however, seems to show that this gradual approach to "the classics" has advantages—it is the "First Step,"[1] the preparation of the pupil's mind for entry upon those realms of thought and feeling so far removed from modern ken: some are thereby attracted to go further—from the modern Cæsar of Shakespeare's creation they follow back to the true Cæsar of the Gallic wars. Others, on whom classical literature can never make more than a superficial impression, do, at any rate, advance thus far with pleasure and profit. If they never proceed to the fountain-head of Virgil and Sophocles, they will at least read modern poets with greater ease and pleasure.

A similar course in Modern History might easily be taken up by pupils of like attainments, and it would have this additional advantage—it would supplement at every turn the earlier studies in English History. If it be inquired, *Cui bono*?—what purpose is served by introducing these wide studies in history to such young people?—the answer must be found in our view of their mental powers. They are not yet ready for any such abstract treatment of history as is involved in Constitutional, or Economic, or Political History proper. Their interest is still in men and in events, but their powers of acquisition and retention within that sphere are largely increased: they are able to take in their grasp a wide range both of past time and of foreign climes: the aims of their education demand that they should secure some working knowledge of the human story as a whole, so long as this can be combined with detailed interest. If Outlines of History are "learned up" *merely* as outlines, they become a drudgery, but if they are so treated as to supply a Time-Chart[1] to the mind, which shall place the great deeds and literature of Humanity in proper perspective, then they become an intellectual exercise of high value.

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[1] Compare p. 159, above.

Literature.—The example offered above, of a syllabus correlated with Ancient History, indicates the method to be followed for any other period chosen for Humanistic study. But here, as in previous chapters, we are not closing the door against literature which can be correlated with portions of the curriculum apart from History: it is difficult, however, to find writings, outside the realm of heroic poetry and narrative, which take high rank as literature, and which, at the same time, can be brought into the range of the limited powers of pupils at this age. Probably more success may be achieved with girls than with boys, for the girl is more approachable on the side of æsthetics: poems which treat of nature will associate themselves with her interests in Drawing and in Nature Studies.

Other Branches of Humanistic Instruction.—It may be sufficient to refer to the corresponding paragraph in Chapter VIII—as also for Scripture Lessons, and for additional and incidental studies in the sphere of the Humanities lying outside the regular programme.

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[1] See Withers, on "Teaching History" in Barnett's *Teaching and Organization* (Longmans and Co., 1898); or Vol. II. in *Special Reports on Educational Subjects*, pp. 292–316.

§ 4. *Natural Science.*[1]—While in the sphere of the Humanities, instruction must still be limited to concrete experiences, the same restriction does not apply to Natural Science: the period of life which we are now considering is rather that in which the pupil may proceed from work which is mainly concrete to work which involves formal processes of abstract thought. He has in earlier years been encouraged to handle, weigh, measure, observe, classify all sorts of material in many branches of Natural Science: he has noted his observations, and has learnt to register and compute his results in terms of number and space. He is now prepared to take the first step in modern scientific method: he begins to think about the great forces which act and react upon the world of matter. Already in earlier years he has done much thinking of a kind. His pursuit in Nature Knowledge has not been merely in the morphology of plants or the appearance and parts of animals; he has thought about structure and function from the very first: but his new treatment of science is more abstract in that the conclusions now to be reached, although dependent, as before, upon observation, experiment, and computation, demand also a power of abstraction beyond anything previously required. He commences with the study of "motion" as the commonest form of energy familiar to his experience, and proceeds over the ground which has become very familiar in schools during the last twenty years; it is the ground which was traversed during the slow course of generations from the days of Roger Bacon to those of Isaac

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[1] For an example of a detailed Syllabus on the lines of this paragraph, see Appendix, and compare p. 186, above.

Newton, and the pupil who can investigate the main problems of elementary physical science so as to catch a spark of the patience, the independence, the industry of such great thinkers, has learnt much beside the bare knowledge of natural phenomena.

The Physics of the Seventeenth Century is followed by the Chemistry of the Eighteenth: Newton leads the way for Lavoisier, Cavendish, Black, Priestley. An elementary course of Chemistry may well succeed an elementary course in Physics, and will complete the range that is possible during the four years under review; for here, as in the Humanities, we cannot assume that our pupils, on entering the lowest Form of the Secondary School, are so equipped with interest and knowledge as to be ready at once to commence on Physics. Much of the time during the first year or two will need to be spent in studies similar to those described on p. 425, so that it is by no means surprising that in recent years secondary schools have been limiting the proportions of their syllabus in Science teaching, contenting themselves with reaching, at the age of sixteen, a course of "Elementary Science"[1] which contains only a restricted course of study in Elementary Physics and Elementary Chemistry.[2]

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[1] *Vide*, *e.g.*, the syllabus for Matriculation at the University of London.

[2] We do not suggest any distinctive syllabus in Science for girls at this period. Physics and Chemistry, in their elementary branches, are surely a part of liberal education at the present day. No woman can be regarded as fully equipped for the higher intellectual activities of our time unless she knows something of this realm of ideas, which enters, equally with the Humanities and the Arts, into the entire life of the world of culture and of public progress. But at the same time it is pedantic for scientists to say that Natural Science is *not* attended to in schools where an intelligent course in Botany replaces Physics or Chemistry (cp. p. 240).

§ 3. *The Abstract Sciences: Mathematics.*—What has been said with reference to abstract thinking in Science, applies equally to Mathematics, and is more generally recognised. During these four years a pupil may cover the ground of Elementary Algebra and Elementary Geometry: *i.e.*, he may acquire the art of thinking in algebraic symbols, and in the equally abstract language of Theoretical Geometry. In Arithmetic his progress should keep pace with the requirements of his work in Physics: the less time he spends upon useless problems in Stocks, Shares, and Bankers' Discount, the better for his mental progress. We are in the midst of a most healthy movement of reform in the teaching of school Mathematics, which is spreading more rapidly than educational authorities seem to be aware. In Arithmetic, the selection of *Content* is being modified in order, as indicated above, to help the work of the Science classes: *e.g.*, the need for a proper treatment of decimals in the metric system has led to their being taken at an earlier stage, and, as a further result in method, to the teaching of multiplication by multiplying at the start by the first digit of the multiplier instead of by the units digit. Other points in method, especially those connected with Subtraction, Factors, and Fractions, need not be here discussed.[1]

Algebra is slowly yielding to the methods of treatment so long advocated by Professor Chrystal, which, while accepted in the Universities, have been excluded by the more conservative atmosphere of the schools.

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[1] See article on Arithmetic by R. N. Haygarth (*The School World*, April, 1901), for a useful summary of these reforms; also Mr. Heppel on "The Simplification of Mathematical Teaching" (*Educational Times*, November, 1891), and above, p. 190.

Geometry has been always the despair of reformers. The Society for the Improvement of Geometrical Teaching struggled gallantly for twenty years, but failed to shake the ancient rule of Euclid. That monopoly is, however, slowly yielding before a combination of forces which alone would have been helpless. Europe and America have laughed the English teacher to scorn, but that proved nothing: the teachers of Science have begged for a Geometry which would aid instead of thwarting the study of Physics: finally, teachers of Mathematics themselves, emancipated from the barren doctrines of the faculty-psychology, and trained with courage adequate to the task of thinking out their own Geometry, are taking up the question in earnest. The one step now necessary is for examining bodies to admit candidates for public certificates to offer Geometry other than that of Euclid: the road will then be clear for the necessary experiment and investigation, making use of the abundant experience to be gained from France, America, and Germany. Two years' experience of freedom from Euclid, conducted[1] under great disadvantages, has certainly proved in one school that pupils lose nothing by the change, and that, if at a later stage they are compelled by University requirements to revert to Euclid, their rational treatment of the same subject-matter in previous years makes it easy for them to revise their studies in the particular order prescribed in the Euclidean system.

Grammar, as in earlier chapters, only needs mention here for the sake of the scheme of Groups which we have adopted: it is treated below in connection with the Art of Language.

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[1] Under the condition referred to on p. 236, above of the Certificate system of the Central Welsh Board. See p. 260.

§ 6. *The Arts of Expression.*—The Native Tongue. What is stated in Chap. VIII might here be repeated, and its conclusions carried further as the pupils advance in years. Good pupils in Secondary Schools commonly acquire some taste for books, and the teacher's efforts are needed rather to train the taste and direct the choice than to create it. A young man cannot be *forced* to prefer Bach and Handel to "Soldiers of the Queen," but, if he does not show this preference, those who have educated him must share the blame. So with literature, both as content and as art. If a woman cannot "enjoy" anything better than a sensational novel, some elements of true culture have been lacking in her youth. This argument is true of all types of school: but it is especially relevant in treating of Secondary Schools, because they have an especial responsibility in all matters of culture and liberal education.

One reason, perhaps, for the failure to interest pupils in literature as a fine art, is that sufficient pains are not taken to cultivate the taste for artistic expression. Literature needs to be read, really read, for its artistic form—not only to be devoured (or skimmed?) for its "content." Passages in the native tongue *are* learnt for repetition, but they are gabbled, just as the classic poets of Greece and Rome have been recited for ages by Grammar School boys. Literature cannot be so appreciated: it must be treated on principles of method[1] appropriate to the acquirement of the art. This involves time, but time must be taken, and the class must be content to cover less ground.[2] If during four years a few less books are read or shorter periods studied, the loss is small; but if a great art is mishandled and degraded, the loss is indeed great.

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[1] See Chap. XV, below.

[2] "What is time for?" See the striking preface (replying to this time-worn objection as to lack of time) by the late Mary Sheldon Barnes to her *Studies in Historical Method* (Heath and Co., Boston, U.S.A.).

Foreign Languages.—In Chap. VIII we have discussed as fully as our space would permit the controversies involved in Elementary Foreign Language Teaching. And in applying those conclusions to the special circumstances of the Secondary School, it is proposed that French should be the first language to be acquired under the present condition of things in England. And we should urge again with the utmost emphasis that the choice of material, *i.e.*, of text, either for oral work or for class reading, be correlated with the Humanities. Practical experience during the last three years in a Secondary School enables the present writer to maintain this position with considerable confidence (see Chap. VIII, p. 200, above).

The first two years, therefore, of the Secondary School should include a daily lesson in French as part of the regular Time Table, and no other foreign tongue should be taught. Some pupils will no doubt enter the school in these Forms with a slight knowledge of Latin, or even of German, but experience shows that they ultimately lose nothing by "forgetting" this small acquisition for a year or two.

After these two years, a pupil will be found able to pursue his work in French with four or five lessons per week, using always French speech as the medium of teaching. Pupils thus taught for three years have been found ready to take a public examination of the "Junior" stage on a syllabus which requires them to do oral and written work wholly in French.[1]

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[1] A permanent difficulty is found from the fact that pupils enter a school at different periods of the school year, and also with varying attainments, which require them to be

A Third Language.—It is clearly necessary to diminish the hours devoted to French and English as we advance up the school, because we have to find time for a third language, and this time must not be taken from other Groups, until the pupil enters the higher Forms, and then only if he is to "specialise" on the literary side. We are here in the midst of controversies for which no final solution has yet been found. Some teachers would question the necessity of introducing a third language at all before the age of fifteen. They would urge the pleas advanced in Chap. V, and insist that the one language must be intensively treated, so that it becomes absolutely the possession of the pupil, before another is commenced. They would also urge that this second foreign tongue would be likely to cross with the first, and create a confused apperception-mass—a store of French in which German or Latin elements would intermix. This would be as unfair to the new language as to the French, for this German or Latin will have no chance of gaining a firm and isolated footing in the mind, if it does not for a certain time gain the exclusive, intensive attention of the pupil. Such arguments have much force, and their validity will depend upon the special experiences and aims of each school. The present writer has found it possible to introduce a first year of Latin at the age of fourteen, and after about two years' intensive study in French: Latin has been chosen in preference to German, for the following reasons:—

(1) Although German is indispensable in later

placed in various Forms *above* the lowest. But this difficulty does not prove to be greater in French than in other branches, and it is partly avoided by special arrangements (See Appendix V below).

life for any advanced accomplishment in literature or science, it is not required for immediate use at the age of fifteen or sixteen; and if a pupil has once gained the art of thinking in a second speech (such as French) he will find it comparatively easy to attack a third speech (German or other) at seventeen or later.

(2) Latin does not conflict with the growth of French in the pupil's mind in the same way as German, for it cannot be acquired on the same "Direct" methods of conversation, since it is a dead language. Also, its vocabulary and structure have much in common with French, and help somewhat in the intellectual appreciation of French forms, as well as of the large English vocabulary which is of Latin and French origin.

(3) Pupils between thirteen and fifteen years of age are on the dividing line between choice of studies. They are by way of settling their future career in life, or at any rate the type of career which they are likely to follow. Now a year or so spent by all in Latin is not a waste of time (from the standpoint of general culture) for those who will not pursue it further: while it serves as a touchstone to determine which of the Form are fit to proceed with Latin, and which should, after the first year, drop it in favour of more modern studies.

(4) It is true in a sense that "a little knowledge is a dangerous thing," but in the present instance the danger from a fragmentary acquaintance with Latin forms of speech is not apparent, especially if this acquaintance be cultivated with a proper choice of Content, *i.e.*, with material selected[1] from the life of

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[1] An admirable example of such selection is offered by Gurlitt's *Lateinische Fibel für Sexta*, and Professor Sonnenschein's *Ora Maritima* (Swan Sonnenschein and Co.).

classic times, and correlated with a scheme of study in History and Literature, such as is described above. Latin thus becomes from the start a reality to the pupil, and the forms of ancient speech are "embodied in a tale," instead of being acquired mechanically as equivalents for English words. So treated, the pupil, if he never studies Latin thereafter, will have gained a collective impression as to the relations between ancient, mediæval, and modern life, which will serve him in many unexpected ways. The least of these is the increased power in the employment of his native tongue, owing to his recognition of its philological connection with Latin. Far greater will be the ever-recurring associations between modern art and literature, both English and Continental, with that of ancient times. History is a continuous story, and a man who aspires to culture must be able, in some fashion, to survey that story as a whole.

Thus our conclusion as to the order and choice of foreign languages for pupils in Secondary Schools, as one finds their general attainments and powers at the present, is somewhat as follows:—

(*a*) French to be commenced at about ten years of age.

(*b*) Latin to be added not before thirteen years of age, and the time hitherto allotted to French and English to be cut down sufficiently to allow room for at least four or five lessons per week in Latin.

(*c*) At about fifteen, Greek or German or Spanish to be added, but only for those pupils who are intended to "specialise" in some career for which one of these languages is required: Greek for a literary and professional career, German for "scientific,"[1] Spanish for "commercial," if required.

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[1] Using the word scientific in the German sense of *Wissenschaftlich*, *i.e.* as a necessary instrument of culture for

Pupils of marked literary ability will be able to take up both Greek and German before leaving school at nineteen, but they will be the exceptions; and in no case should an additional language be attempted unless the earlier ones are well in hand. The main objection to this scheme is offered by the friends of the ancient classical tradition, who fear that the supremacy of Latin and Greek among scholars is endangered by any proposal to disturb the old system, under which Greek and Latin are commenced together by children of tender years. If the general line of argument pursued in this book be accepted, it will follow that these fears are groundless. Latin and Greek are in no peril at the present day: they are pursued with more zeal and intelligence by scholars than they ever were before; and the total number of such scholars in every European country is greater than it ever was before. The effect of modern movements has simply been to confine these studies to those who care for them, and to leave other scholars free to pursue culture in other fields. Only in one feature have "the Classics" lost their prestige: they are no longer made a fetish of pedagogic art: they are no longer accepted as a sovereign prescription for mental training, or as the one portal by which a student may climb the heights of culture. If the friends of the Classics would only believe it, these studies have immensely gained by the change: they are cultivated now, not by a host of unwilling pupils, but by those alone who care about them;

all scholars who are ambitious to do sound work of an advanced type. This argument increases in force with every decade, and it *may* lead to the substitution of German for French as a first foreign language in some schools, just as English (for reasons of trade, as well as culture) has ousted French in some *Gymnasien*.

thus the whole atmosphere comes to be charged with an enthusiasm which was impossible in days when choice of studies was forbidden. Nor need there be any fear that the postponement by a few years of the date for commencing Latin and Greek will hinder the progress of the student at the University. Sufficient experience has already been gained to show that clever pupils (and these alone are worthy of a Classical education) can attain the highest University standards by commencing later, with as much ease as those who used to commence in childhood.

Grammar.—What is stated in Chapter VIII is equally true of the earlier years of the Secondary School. The study of the science of English forms of speech should proceed *pari passu* with the first years of French, so that as the pupil advances year by year into the more difficult forms of construction in French and Latin, he may be found to be equipped with the necessary foundation of ideas. But it is easy to exaggerate the importance of such instruction: any elaborate treatment of philology and syntax in English, such as is sometimes proposed, is a useless burden, and should be relegated to its proper place among the philological pursuits of University scholars (cp. p. 76, above).

Music.—See Chapter VIII.

§ 7. *The Arts of Representation.*—Here, again, what is advanced in Chapter VIII. need not be repeated. But it seems especially necessary to plead for the continuance of Art studies in Secondary Schools *for boys* right up to the close of this four years' Course of general education. These schools still cling too much to their ancient character of "Grammar" schools, relying solely upon books as the medium of teaching: even in Science work much is still done (that is, mis-done) by the text-book which should be done in practical work. Art has scarcely yet made its claim as an element in general liberal culture; although it cannot be questioned that the student is helpless unless he knows something of the spirit in which these arts of representation are conducted. True, until recently, so little was known of the artistic powers of children that it was useless to propose any scheme of teaching which would do credit either to art or to education. But things have greatly changed since the days when "copies" were the only form by which a pupil could work. We can take our classes to "nature," and to the products of human art in architecture:[1] we can show them methods for studying design, and illustrate these by the domestic arts: we can provide them with a variety of material, clay, chalk, colour, as well as the pencil. Above all, we can associate these pursuits with human interests, and with the other pursuits of boys at school; and where this can be achieved, by teachers who are students of education, as well as artists, there is no excuse remaining for the neglect of the fine arts in Secondary Schools.[2]

§ 8. *Physical Exercises and Recreation.* — The same general argument may be employed on behalf of the constructive arts. The purely manual arts—carpentry, blacksmith's work, and so forth, are not, indeed, within the scope of liberal culture,[3] and their place in the Secondary School is at a later stage, for those who especially require them.[1] But, if any manual pursuit can be brought within the scope of the fine arts, if, for example, wood work can be treated as wood-carving, one may give it a welcome in the Time Table.

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[1] There is scarcely a neighbourhood in Great Britain (except in some mountainous parts) which does not offer good accessible examples of Gothic architecture.

[2] A note, only, to urge once more the eloquent plea of Edward Thring for *The School Beautiful*. Only a note, for this great topic lies beyond the strict limits of class *teaching*. But no teacher can afford to disregard the overwhelming influence of artistic environment upon the life of the young.

[3] See pp. 83 and 204, above.

The most important feature, in respect of Recreation, is that which has already claimed our attention in Chap. VIII—the impulse towards games of contest. To this must be added the growing effort towards *social* life. As the boy and girl approach puberty, they unconsciously turn away more and more from the homely affections of childhood, and unless they are attracted by a happy and vigorous social environment among comrades at school, they tend to grow inwards, cultivating an exclusive, personal temperament, which tends to be suspicious, if not hostile, to all the world outside—to parents as well as to teachers and comrades. The one cure for this malady—and it is a very real danger—is an environment of a happy school society, actively employed both in work and play. And the element of contest in play, supplied by school games, seems to be indispensable for the perfection of such a corporate school life. The full discussion of this topic should be relegated to a treatise on "Government and Guidance,"[2] but since we are concerned here to provide a complete Time Table, we must continue to make proper allowance for these important pursuits—important, above all, in the Secondary School, since the "mission" of this type of school is, above all, to provide for pupils during the years of adolescence.

School games, therefore, involving active social relationships, together with vigorous physical conflict, should form the leading element in recreation. But, with the change of life at puberty, we witness also among boys a willingness to submit to the restraint of military drill, an enjoyment of strict order and prompt response, and a recognition of the value of this to a corporate body[1] of youths, who ere long will be members of the civic community, who feel already stirrings of the blood towards the days of active service which lie before them. Such grounds seem to suggest the age of fifteen to seventeen as the appropriate time to introduce Cadet Volunteer Corps into the school.

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[1] Especially, *e.g.*, for students of Engineering.

[2] See Chap. I, p. 14, above; also p. 99.

§ 9. *The Time Table for this Four Years' Course.*—The general plan for the distribution of time, proposed in the last paragraph of Chapter VIII, would serve also as a fair guide for the first two years of the Secondary School; but for the next two years it will probably be found that more time is required to bring the pupil forward in those traditional branches of culture, the Humanities and Foreign Languages, in which a high standard of attainment is required for entrance to the professions and other analogous careers. The shadow of the years to come already presses upon the young scholar, and after the age of thirteen he must begin already to be sparing of time spent in outdoor pursuits, whether directed towards Science or towards Art, or towards arts of production.

Thus, if we still adhere, for the sake of example, to a division of the working day into six periods of some forty-five minutes each, we should take, during the last two years of this Course, a lesson on alternate days in Natural Science (Physics or Chemistry)—one of these being a double lesson, extending over an hour, in order to provide adequate time for Laboratory work; a lesson in Art on alternate days; some time daily, together with at least one complete afternoon, for Recreation and Music; a daily lesson in Mathematics, and the remainder of the time distributed equally between the Humanities and Languages.

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[1] p. 89, above, and reference there.

By way of illustration, a Curriculum Table will be found in the Appendix, prepared more or less on the principles here advocated. That illustration by no means accords, in matters of average age, etc., with the exact suggestions of this book—whereby the reader will perceive that professional practice, in our profession as in all others, must adapt its arrangements to the actual situation at the moment as governed by parents, pupils, and teachers: the actual Time Table of a school is not devised to illustrate the doctrines of a text-book.

§ 10. *The Later Years of the Secondary School.*—The Board of Education in Great Britain recognise two forms of Secondary School, those called "First Grade," planned especially for pupils who remain at school until nineteen years of age, and "Second Grade," for those who remain only until seventeen years of age. It is unfortunately true that parents do not recognise these distinctions, and that many pupils fail to remain long enough to complete the course of education for which the school is designed, but this evil will mend itself in time, and meanwhile it is important to keep some such mode of distinction in view: in the course of years it will become as familiar to parents in England and Wales as are the distinctions between Real-schule, Ober-real-schule, and Gymnasium to the German parent.

The distinction is based upon the necessities of

Equipment, and our consideration of the curriculum for these years will follow the same course of argument which we have already employed in the case of the Higher Elementary School. The pupil in the present case, however, has extended his Course of general education for four years since (in Chap. VIII.) he parted company from the curriculum for young boys and girls, and the top stone has now to be laid by studies extending over two, three, or four years more, and directed in part towards preparation for some career. No purpose would be served by a detailed discussion of curricula or time tables suitable for these higher Forms of the Secondary School: every school has to organise itself differently to every other, for the needs of the locality, and of pupils, and the resources of schools vary in a hundred ways.[1] It will be sufficient if we take a few typical examples, assuming in each case a weekly Time Table of thirty-six lessons, and disregarding Home lessons. We may, for the sake of simplicity, assume also that the pupil takes three years to complete this final programme of Secondary School life: obviously he will "specialise" more and more as the time draws to a close, and this is indicated where necessary by the figures in the column for the successive years.

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[1] Compare note on p. 111, above. The Board of Education has commenced to differentiate a little between types of curricula adapted to the varying needs of Secondary pupils, but in the past it made the capital mistake of requiring the specialisation in Science and Art studies to commence far too early: thus a "School of Science" was created which is called a Secondary School, and taught pupils of Secondary School age, but lacks many of the distinctive qualities essential to a liberal education, *because* it insisted upon a precocious attention to special studies. The new Regulations (1904) are tending to lessen this mischief.

A.—*A Science scholar, preparing to take a University Scholarship in Science.*

	First year.	Second year.	Third year.
GROUP I. Scripture Knowledge, together with some reading in Literature . .	4* Lessons	4* Lessons	4* Lessons
GROUP II. His principal study, in Chemistry, Physics, Biology, one or two of these three . . .	12	15	18
GROUP III. Mathematics	6*	5*	4*
GROUP IV. Languages: German (or Greek, if Greek be required by the University), Latin, and French continued more or less	8*	6*	4*
GROUP V. Dropped . . .	—	—	—
GROUP VI. School Games, Drill, etc.	6	6	6
Total for week . .	36	36	36

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* The attention paid to these will depend partly upon the time when the scholar secures some "Senior" Certificate which will exempt him from University entrance requirements in these branches. But, apart from such examinations, he ought not to drop any of the three Groups entirely so long as he remains at school.

B.—*A pupil intended for Engineering, either to be apprenticed to a good firm which prefers to receive well educated pupils at* 17 *or* 18, *or to proceed to a University or Technical College.*

	First year.	Second year.	Third year.
GROUP I. As in A	4* Lessons	4* Lessons	4* Lessons
GROUP II. Chiefly Physics	6	6	6
GROUP III. Principal study—Pure and Applied Mathematics . . .	8	10	12
GROUP IV. As in A . . .	8*	6*	4*
GROUP V. Workshop practice (sufficient to enable him to apprehend the Mechanics of Group III.) and Drawing	4†	4†	4†
GROUP VI. As in A. . . .	6	6	6
Total	36	36	36

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* As on previous page.

† Sometimes a boy will in earlier years have gained experience in wood and iron work, which will render this unnecessary. If so, he can spend more time on Drawing.

C.—*A pupil intended to enter a Commercial House, with connections in foreign trade (e.g. shipping), analogous to the programme of a "Handelschule" in Germany.*

	First year.	Second year.	Third year.
GROUP I. As in A, but including studies in Industrial History and Economics	8	6	6
GROUP II. The study called by the Germans "*Waarenkunde*"[1]	3	3	—
GROUP III. Including commermercial accounts, etc.	8	8	8
GROUP IV. Including Spanish, or German, or both, and commercial correspondence (?) . .	11	13	16
GROUP V. Dropped	—	—	—
GROUP VI. As in A	6	6	6
Total	36	36	36

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[1] See p. 229, above.

D.—*A pupil specialising in Languages and Literature (either Classical or Modern).*

	First year.	Second year.	Third year.
GROUP I. This work would be closely correlated, and scarcely distinguishable from the reading in Group III.	8	8	10
GROUP II. Dropped	—	—	—
GROUP III. Up to the requirement of entrance at a University, if that is the intention .	6	4	—
GROUP IV. Specialising either in French and German, or in Latin and Greek	13	15	20
GROUP V. Some Art studies closely correlated with the central studies of Groups I. and IV.	3	3	—
GROUP VI. As in A.	6	6	6
Total	36	36	36

These illustrations are not taken from the actual practice of schools, but pupils or classes of pupils may be found in many large Secondary (Public or Grammar) Schools following courses of study arranged on some such lines. Their purpose is not to prescribe any precise distribution of lessons for any type of pupil, but to emphasise the distinctive characteristics of teaching in the higher Forms of Secondary Schools.

The cardinal feature is to be sought in the combination of three elements, each of which is essential to any comprehensive proposal for the public education of boys and girls between the ages of fifteen and eighteen or nineteen. Firstly, their retention in the corporate life and under the discipline of school, rather than their premature withdrawal to some institute or college (public or private) which offer only "specialist" instruction, ignoring corporate life; and the advantage of associating with pupils following a variety of courses of study. Secondly, the continuance of a diminishing amount of pursuits and studies unrelated to the main special study, but valuable as elements of liberal culture, and as helping to impart a liberal atmosphere to the whole environment of teacher and pupil. Thirdly, adequate attention to the special courses of study: if this be neglected, the Secondary School can no longer hope to retain its older pupils. One conclusion—addressed to those who organise and finance these schools—is obvious. The structure is elaborate and costly: the staff must not only consist of teachers of varied attainments, but they must have leisure to do the work, which is equal in scope to the lower branches of University programmes:[1] and they must be adequately supplied with apparatus. It is not, indeed, necessary for every pupil in each of these departments to have a teacher at his disposal for every lesson of the day: the more scholarly and advanced the pupil is, the more he requires to be left partly to himself; nevertheless, it is impossible for a teacher to do adequate justice to such pupils if his best energies are exhausted with the strain of teaching junior classes for many hours day by day. Hence, the Secondary School, in order to be efficient, must be *large:* the demands of educational efficiency are woefully frustrated when such schools are set up in small neighbourhoods to gratify local prejudices. The number, three hundred, fixed long ago by Thring as the proper total for a Public Secondary School is probably the right number to aim at. This, however, is a topic which must be reserved for treatment elsewhere: it belongs rather to Organisation than to Teaching.

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[1] The Commercial Department, recently endowed by the London Technical Education Board in University College School, is a good example of how such a department needs to be equipped in a Secondary School of the first rank. The equipment for Science teaching at St. Dunstan's, Catford, is on the same adequate scale.

ADDENDUM (Nov. 1902) to p. 242.

Quite recently a number of alternatives to Euclid have appeared, and some teachers may be glad of a list, with names of publishers:—

Elliott (Swan Sonnenschein & Co.).
Croome Smith (Macmillan).
Baker & Bourne (Bell & Sons).
Fletcher (Edward Arnold).

Of older date, *Henrici's*, Congruent Geometry (Longmans), is valuable, but not suitable for youngsters. And the American text-books published by Ginn & Co. should also be consulted (Beman and Smith, Wentworth, etc.).

July 1904: Since the above was written the number has swelled to large proportions; and the addition of a variety of introductory books on Practical Geometry (among which that by Mr. Eggar [Macmillan and Co.] is perhaps the best) are helping the reform.

Consterdine, Barnes, and Andrews' Series:—Practical Arithmetic and Practical Mathematics should also be added to this list: they advance still further on the road to reform (John Murray, 1905).

A Memorandum on the Teaching of Geometry, etc. in Secondary Schools (Board of Education, 1908, price 2*d.*) can be highly recommended.

SECTION IV

METHOD

CHAPTER XII

FIRST TYPE OF LESSONS: THE ACQUIREMENT OF KNOWLEDGE

> Think of Laplace, the great Laplace, dismissed by Napoleon for *incapacity*, and say whether the greatest mind may be truly called great, when tested apart from the apperception masses with which it is familiar.—Adams, *The Herbartian Psychology*, p. 127.

§ 1.—WE have thus completed the inquiry which we commenced in Chapter II. We have selected "Material" for our class right through the stages of school life.

We have now to survey the second part of our task, and search for principles of "Method" by which these pursuits—studies, occupations, exercises, and what not—may be presented to the pupil and engage his activity.

Here, again, as in Chapter II, we may listen for a moment to the sceptic. "Why," he will say, "interfere with pupil and teacher further? Every teacher has his own way of putting things, and every pupil in a class has his own way of accepting these: why try to reduce this to a machinery?"

It is easy to meet this general objection by a general appeal to the usages of all professions and callings in which trained skill is required. The physician does not lose his individuality by a study of principles: the engineer does not become an automaton because he bases his practice on general laws and usages, which he learns from the experience of others.

Nevertheless, there is undoubtedly a wide distrust felt of any attempt to systematise the daily practice of teachers. The earlier chapters of this book have dealt with topics which concern the laity as much as the practitioner, topics which must always be of interest to the public mind; but now we come to a sphere of inquiry which is solely of professional interest; and the teacher is still, as a rule, sensitive as to any discussion of his modes of giving instruction. He is accustomed to "interference," more or less minute, in the choice of studies, by parents or by public authorities,[1] but when once he sets to work to administer the prescription, he expects to be left free to pursue his own methods. It is this desire, entirely justifiable, to assert the freedom of the teacher in his own sphere, which in part accounts for the resentment often shown by teachers to a pedagogic inquiry such as we are now to pursue. But the answer is ready to hand: we can only establish Education as a professional pursuit by devoting to its study the same elaborate care, the same spirit of devotion to our profession as we witness in other callings which have won the confidence of the public. The more completely and thoroughly we investigate on a scientific basis the principles on which we pursue our daily practice, the more thoroughly will the public be persuaded to extend the range of the confidence which it reposes in the teacher. For, be it observed, the investigation upon which we are now bent is not directed to the prescription of rigid mechanical devices, often labelled as "Methods": we shall not clear a strait path to be trod by every teacher: what we have seen in Chapter II as to the necessity of freedom and individuality in our selection of Material for the child, is just as needful in our handling of Method. Both teacher and pupil, in every school and in every class, have idiosyncrasies which will (most happily!) elude every sort of investigation—precisely as the sick-room and hospital-ward exhibit personal features which stand outside of the laws of medical science.

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[1] The circumstance that teachers, especially assistant teachers, are restricted in the choice of Material for the Time Table, whereas they are left free in regard to Method, will suggest that the later chapters of this book may be of more immediate value than the Chapters IV. to XI. The present writer's experience in training teachers, and in lecturing to teachers at work in schools, made it evident that an interest in Method can be readily aroused, *because* the question has a direct bearing on the daily work of the class-room.

But none the less, here as there, the business of physician and teacher alike is to search for common principles, *springing out of and again reflecting upon*, that daily practice. He who denies that such principles exist, who insists that his particular modes of teaching are so individual and personal as to be incapable of comparison with those of others, is grossly ignorant of the practice of his colleagues. When all possible allowance is made for the personal equation, there still remains a great body of general principles, based upon the permanent situation, on which all good teaching is based; he who ignores these principles may, indeed, be one of that rare breed, a "born teacher," but he may chance to be an egotistic crank, a type of man who, in other professions, would be called a quack.[1]

Furthermore, it is necessary for teachers, even more than for members of other professions, to recognise that a partial surrender of liberty is a necessary condition of association with a corporate body.

> "The teacher in a school is not a free lance: he is bound by the law of his society; and his value as a member thereof depends largely upon his sense of order. He who has not learnt the habit of submission where submission is due, is not yet grown to the stature of his profession; 'freedom, variety, and elasticity' can only be permitted to those who recognise the limitations imposed by their environment. The situation of the teacher, as a member of a corporate body, is one of the most important factors which govern the progress of educational reform. This progress has been, and always must be, slow, since every change must win the appreciation of many before it can be thoroughly worked out. In few callings in life is it more necessary for each worker to maintain within himself an open eye fixed on lofty aims, while content to tread the even path of daily routine step by step with his fellows."[1]

Our investigation, then, is concerned with the general theory which underlies the teacher's practice, when he has selected a branch of teaching and is about to engage his class upon it.[2]

The foundation for these principles will be sought at first in the same field which we have covered in our study of the Curriculum: we shall require to bear in mind the nature of the Child (Chap. II, § 3), the processes by which his mind works when attacking the Material of teaching: then we shall revert again to the nature of this Material (Chap. III), since different sorts of study need to be attacked differently; and, in a minor degree, we must still bear in mind that we are dealing with *class*-teaching (Chap. I, § 5 A), and we must therefore not overlook the restrictions and modifications in Method due to the fact that a number are jointly concerned in the task of learning. This last is a matter which offers considerations of a special kind, and we shall therefore devote an additional chapter (XVI.) to it at the close.

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[1] *On the Study of Education*, p. 340 and 348, in *Special Reports on Educational Subjects*, Vol. II, 1898.

[2] We have already devoted a few lines to Method in Chapter VI, when treating of the Curriculum of the Kindergarten, but this seemed to be necessary since Kindergarten work in so many aspects differs from formal class-teaching.

§ 2.—We shall approach our inquiry by drawing a distinction which is found in all professional pursuits, between principles which are *general*, fundamental to all branches of teaching, and those which are *special, i.e.*, only applicable to a single branch. Just as the engineer finds general laws of energy which underlie the whole field of engineering, distinguished from special laws which concern only the construction of bridges, or others which concern only the construction of docks, so we first find general laws based mainly upon the processes of mind; at a later stage these assume different shapes according to their application:—our method, *e.g.*, in teaching History will differ greatly from that suitable for Drawing.[1] The basis for these general laws has already been implicitly ascertained in the analysis undertaken in Chapter II, §§ 3–7.

We there discussed the nature of the Child as a part of our investigation of Material, but the conclusions of that chapter serve us equally well in searching for laws of Method. We may summarise the whole doctrine under one universal principle

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[1] Compare the Preface, and the Scheme at the end of Chapter I, where it will be seen that Special Method (*Spezielle Didaktik*) is excluded from this volume. The illustrations in History, Geometry, German, etc., that we have found space for, are, however, so far as they go, examples of Special Method in those branches.

—*That every lesson must be so handled by the scholar as to be a part of his own mental life.* Thus:

(A) At the outset, a new topic must be so introduced that it is perceived to be of interest, in relation either to other school pursuits, or in relation to his life apart from these; we employ as a technical term the word "Preparation"[1] to indicate the preliminary stages in the pursuit of any branch, or in any portion of it which may be assigned for separate treatment. The form of this Preparation will vary according to the nature of the branch, but it will always bear an intellectual aspect, since it consists in an intelligent association between what exists already in the mind with what is about to be undertaken. It will also appeal to the emotional side of the pupil's nature, since it aims to win the personal interest of the pupil and awaken his expectancy.

(B) We again apply this universal principle to the main business when the pupil has entered upon the new acquisition. He is to apprehend at the outset the connection of the pursuit to his own life by an appropriate Preparation, and he will continue to maintain this connection, wherever necessary, by appropriate correlation (Chap. II, § 6); that is to say, the principle of correlation, which we have recognised as valid in the selection of Material, will also be regarded, within due limits, in the sphere of Method. These limits are not difficult to indicate on paper, although they present great difficulty to the inexperienced teacher:—all suggestions from correlated topics are to be welcomed *which aid the class in gaining a better hold of the subject in hand*, but suggestions which are the fruit of mental restlessness, and which tend to dissipate the attention of the class *from* the aim of the lesson, need to be ruthlessly cut off.

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[1] *Vorbereitung* (Preparation) is the German equivalent.

By way of illustration :—A boy has recapitulated the story of the Battle of Hastings, and the class have followed with attention. At the close some hands are held up by boys who wish either to supply items omitted by the narrator or to ask questions. One boy asks: "Is Hastings, where people go in the holidays for bathing, the same place as the battle-field ?" This indicates a desire to correlate with Geography, to which the teacher will respond, if he has not done so before. But another asks: "What would have happened if Harold had escaped from the battle?" This question receives a colder welcome.

(C) Thirdly, we adopt this universal principle at the *close* of every item of teaching, by recognising that the pupil is an active being (Chap. III, § 6), who must make use of his acquisitions if they are to become a permanent possession. We employ the technical term Application[1] (or Practice (Chap. XV), when the lesson deals with an Art) to indicate this concluding portion of a series of lessons. It is, of course, finally true that teaching is imparted in order to be used after school days are over, but it is equally true that unless the learner acquires the habit of using his knowledge and skill he is scarcely likely to practise the art outside the school.

The Application will take various shapes according to circumstances, but it can never be lost sight of. Thus, each Section or stage is used and applied to help the next; Preparation and Application being linked together in order to secure that sequence of orderly teaching which we discussed in Chap. V (§ 3). Again, most branches of study can be "applied" in order to help others: thus the History or Nature Knowledge supplies a theme for Essay Writing or for Drawing.

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[1] *Anwendung* is the German equivalent.

(D) And finally, the principle of Growth (Chap. III, § 3) suggests that the pupil's mental nature will not be adequately satisfied unless each branch of study be treated with due regard to *its* nature. What we already discussed as a maxim for the choice of studies (Chap V, § 3) may be recalled here as equally important from the standpoint of Method. The series of topics embraced in a course of study needs to be clearly analysed by the teacher, so that he (beforehand) and his pupils (in the sequel) may survey the entire course with its divisions and with the elements which link these together.

We shall describe these single topics or parts of a course of study by the technical term *Section*.[1] The dividing line between one Section and another ought not to be arbitary, but determined by the sequence of the ideas or of habits which are to be acquired. The quality of teaching, in the sphere of Method, is largely determined by the skill with which a teacher is able to analyse and group his subject-matter into Sections. Thus a teacher of History who has little knowledge of History will follow a mechanical division by dates or by the accession of sovereigns. A teacher who both knows his History *and* his pupils' minds, will plan a sequence of story,[2] parallel with a sequence of thought arising out of the Course of Study, which will make the instruction a real intellectual exercise. A teacher of Drawing is often content to choose one object or model after another, with no further idea of sequence except that of difficulty: the pupil is vaguely aware that one exercise is "harder" than the one before it, but he gains no further appreciation of the differences or stages by which he is supposed to advance in his art.

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[1] *Methodische Einheit* is the German equivalent.

[2] This, as we saw above (Chap. V, § 3), will not always follow the logical order of the advanced text-book on the subject, but it will be none the less "scientific" on that account.

§ 3.—The above are principles universally applicable to all kinds of lessons, and represent the exposition of Method in its most general form. If, now, we proceed to a further examination of the teacher's work, we must take the branches of study in more detail, and see how far they group themselves into divisions which admit of comprehensive treatment. If several branches of study are of a cognate character, *so far as the mode of acquirement is concerned*, we shall be able to treat these together. Now we have already, in Chap. III, considered somewhat exhaustively the nature of all the common branches of education, examining them *according to their nature*, and excluding any other standard of appreciation.

That inquiry, therefore, serves us again for a second purpose, since it enables us at once to distribute the branches of study according to the mode of acquirement. Some are chiefly directed to the acquirement of knowledge: the direct aim of History teaching is achieved when the pupil "knows" his History: the aim of a course of Science lessons (in Grammar or Chemistry) is achieved when the pupil "knows" the Science. The process by which such pursuits are carried on has been called Apperception, and for the purposes of Method, we may take together Groups I, II, and III, and discuss *the laws of Apperception* which underlie their acquisition. The other Groups, IV, V, VI, are activities or arts, aiming at a wholly different object, viz., *the attainment of skill.* When a pupil has successfully completed a course of Drawing, we cannot say that he "knows" Drawing, although incidentally he must have gained much knowledge (which, indeed, if formulated we could describe as the "Theory" of Drawing). But we say that he has acquired habits of Drawing, or has attained skill in Drawing. Similarly with Language, Music, Carpentry, Football, Gymnastics, and all other arts, mechanical or fine arts, practical or æsthetic: they all range together so far as the general mode of acquirement is concerned, however diverse may be the aim with which they are undertaken. The laws which concern this part of our inquiry may be grouped as *laws of Performance* (see Chapter XV), in contrast to laws of Apperception.

From our discussion in Chapter III, the reader will recall that this twofold division is parallel to two great divisions of the matter of psychology: cognition and will. And the question may fairly be asked whether we are not ignoring the sphere of emotion, which embraces the third division in psychology. We indirectly glanced at this question (Chap. III, § 6) when we classified the arts, and observed that some made a more pronounced "appeal" than others to the emotional side of human nature: but for the purposes of Method we need to go somewhat further by way of answer. Feeling, or Emotion, stands in contrast both to Knowledge and Will as representing especially the *subjective* element in the mental life. Thus, in the process of apperception,[1] we distinguish a subjective state of mind which we call interest (*interesse*) clinging about old familiar ideas already possessed by the intelligence, and forming the starting-point for the process by which new, objective, material may be apperceived. Thus we picture a body of new Knowledge, while still alien to the mind as having no concern with Feeling; but let it once come into contact with the subject of apperception, with the emotional human being, and it then becomes an affair of feeling as well as of intellection. This is seen at once in a study like Elementary History, where success in treatment depends largely upon sentiments of interest aroused in the fortunes of the principal characters: but it is no less true of the Natural and the Abstract Sciences, although the concurrent feelings bear a different character: since states of Feeling are an ever-present element in the life of the mind at all times.

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[1] The term "Apperception" is used in this book in the sense employed by Lange. It denotes the vivid, lively assimilation of new ideas. It is a dynamic process, whereas the terms association or assimilation connote a mechanical process. It asserts the predominance of the subject in all intellectual processes. And it very properly adopts a terminology which emphasises this predominance.

Hence our justification for refusing to classify apart *any* of the branches of school pursuits, from the standpoint of feeling: in their objective aspect, conceived apart from the nature of the pupil, as aiming at the acquirement of knowledge or skill, they have no concern with Feeling: in their subjective aspect they are all alike concerned with Feeling.

Nevertheless, we are bound to admit that in certain branches, of which Music may be taken as the purest example, the element of Feeling so largely predominates as to make our distribution somewhat unsatisfactory. We teach Singing almost wholly for the subjective elements of pleasure enjoyed by the pupil during the exercise, and the mode of acquirement of this art, *i.e.*, our Method, ought to be mainly governed by that purpose.

A teacher of class singing, who had trained his pupils both in a good knowledge of theory and in quick and accurate habits of reading at sight, would still have failed in his principal duty, if he had not succeeded in creating a sincere appreciation and liking for song among his pupils; and any laws of Method which cause this factor in the situation to take subordinate rank are misleading. And there are other branches of study which involve a large element of Feeling, although, in their case, this is more closely interwoven with Intellection or Activity. Thus, Literature is surely to be pursued as a Fine Art, and not merely as a body of knowledge or as a mode of expression. Drawing may have an increasing value as a useful form of expression among the young, but it misses its aim indeed, if it ignores its function in relation to æsthetics.

This criticism may be pursued further. It may very properly be observed that the three distinctive elements of Intellection, Feeling, Volition, since they are permanent and ever-present elements in all mental life, can be observed in *all* operations of teaching,[1] and that, therefore, the classification we have adopted breaks down. This charge would be true enough, if we were not alive to the danger which it indicates. Method is, indeed, not so simple an affair as it would appear to be from some text-books of Method. The Herbartians, who have undoubtedly done much for the advancement of pedagogic science in this department, have here often fallen into error. They have sometimes expounded the Theory of Formal Stages,[2] as if the famous Five Steps embraced a complete exposition of what transpires in the pupil's mind during the process of instruction. Undoubtedly such a Method has the advantage of simplicity, and for the novice it may be an advantage to approach his work from a single point of view, but the dangers are obvious; and the narrowness and pedantry with which this School, both in Germany and in America, has been charged, is largely due to their partial treatment of Method—a treatment which is sound so far as it goes, but which becomes false and misleading when it is adopted as a complete account of mental phenomena or as a complete guide to the teacher in dealing with school pursuits.

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[1] Compare Chap. III, p. 42.

[2] *Theorie der Formalen Stufen.*

We shall seek to avoid this error by treating Apperception as concerned with one *type* of teaching, and we shall regard this as the prominent type to be employed in the study of Groups I. to III., since the predominant, although not the sole, element in question, is the attainment of Knowledge. When the teacher of such a Group comes to prepare his lessons and to handle his classes, he indeed finds that elements of Feeling and of Activity also play their part, and he will not ignore their existence. But he finds himself bound, in practice, to keep his attention fixed upon the main purpose of the instruction, and he therefore accepts the general laws of Apperception that govern this type of teaching. Similarly with our second general type—based upon the laws of Performance—we have seen already that skill depends upon intelligence, and that the acquirement of habits is accompanied by states of feeling, but, for the sake of simplicity in Method, we must seek for typical forms which apply generally to all branches of Art.

The danger of error incurred by following such types has to be corrected in its proper place, when the teacher comes to treat in detail, as Special Method, of the peculiar features of each branch. History has a special "Method" of its own, distinct from Mathematics, but both conform to the general type under laws of Apperception, since both are mainly directed to the attainment of Knowledge.

§ 4.—It will be readily inferred from this discussion that the present writer declines to regard our present state of knowledge in the sphere of Method as complete. We are dependent step by step upon two departments of investigation, upon the researches of psychology, and upon the application of these to experience gained in teaching. Now the psychology of the Intellect has been investigated with comparative success, for more is known about the laws of thought than about processes of feeling or habit. Hence it has become possible for the Herbartians (and many others who know nothing of Herbart) to prepare for teaching in such branches as Science and Mathematics with success, while failing to achieve analogous results in Languages or the Fine Arts; and the reader will find that the next chapter in this volume covers ground in which little room can be found for dispute. The succeeding chapter opens up a field in which few attempts have yet been made at systematic treatment: partly because the psychology of habit has been, by comparison, neglected, partly because students of Education have ignored the necessity of applying this psychology to problems of teaching.

The question may fairly be hazarded whether, in due time, the psychology of the Emotions will be so far developed as to render fruitful results for the teacher: if so, we may anticipate in course of time to be able to experiment with a third type, expressly adapted to secure the appropriate æsthetic results in branches such as Music and the Drama, wherein the emotional life plays the predominant part.

§ 5. *The Growth of Knowledge in the Mind.*—We proceed, then, to treat as a separate type of teaching those branches whose main end is achieved in the acquirement of Knowledge: that, we may say, is the staple product—other *bye*-products are given off during the process, but we shall only regard these incidentally. We shall seek for typical modes of planning lessons in which this immediate end—the acquirement of new knowledge will be kept steadily before us.

But what is Knowledge? The psychologists tell us that while people differ greatly as to the devices by which ideas are gained—differences due to culture, age, habits of mind—there exist certain general features, depending upon the nature of Knowledge in itself, which are universal in character, and not upon the subjective idiosyncrasies of the individual. Clearly we must get at these as our basis for general class-teaching.

A few homely illustrations will here be of service, beginning with a dialogue:—

X.—"Do you know Eastbourne? You have been there, have you not?"

Y.—"Indeed, I know it quite well. I spent a whole summer there once." And Y. proceeds to describe Devonshire Park, the Parade, Beachy Head, the Downs.

X.—"Quite so, you know Eastbourne. And do you happen to know Scheveningen?"

Y.—"No, I have never stayed in Holland. But I should think it would be a very jolly place for a short holiday. Only last week I read a magazine article describing the place in great detail."

X.—"Then you *do* know something about Scheveningen?"

Y.—"Oh, well, if you call *that* knowledge, of course I do."

An analysis of the mind-content of Y. in relation to these health-resorts brings out the following features:—

(1) His *original source* of knowledge about both these places was based upon personal observation: sight, sound, touch, smell, taste (salt water, sea-air, wind), etc.: without these first-hand experiences, it would have been impossible to gain any abiding ideas relating to Eastbourne or Scheveningen. The latter has not been seen, but it is "known" because Y. has a multitude of ideas based on sense-perceptions which enable him to interpret the magazine article.

(2) All these primary acts of sense-perception were isolated: they dealt with the one scene, the one bit of sea-weed, the one Park. The mind, however, is so constituted that it *brings ideas into relationship*. One experience recalls another to the "threshold of consciousness." It is, in fact, only through such process that Y. comes to "know" Scheveningen at all: the symbols called sentences, in the magazine, served merely to recall series of images, more or less complex, which he grouped together into a new picture, just recalled by X.'s questions, as a complete and separate idea of "Scheveningen." Hence we are justified in saying that knowledge implies comparison, adjustment of relationship between groups of ideas. The act of "thinking" about Eastbourne seems simple enough, but yet that idea—Eastbourne—is a very complex one, involving a multitude of impressions, some gained at first hand, some from conversation or reading, now here, now there—a process, too, extending over years.

(3) And not only is this bit of knowledge complex: it also implies the existence and growth of new kinds or qualities of knowledge. Eastbourne is one of a class of places—sea-side places. Y. possesses what is called an *abstract* idea—abstracted from his separate individual familiarity with a variety of places which have the common attribute of lying on the sea-coast. His "knowledge" of Eastbourne depends partly (by no means wholly!) upon abstract ideas such as this. Perhaps his knowledge of Filey does not go much further than this. Here, then, is another sort of knowledge, depending upon the power of combining attributes or qualities: Y. can safely say, if asked, that he "knows" what a sea-side place is.

Incidentally it should be borne in mind that such abstracted knowledge—knowledge, *i.e.*, in the form of "thought"—only reaches to a high stage by the use of language. Language is, indeed, as the grammar says, the expression of thought in words. And if our ideas remained at the lowly stage of sense-perception, we should have little occasion for speech. Hence the unique place of Language among the branches of the Time Table (see Chap. III, § 10).

(4) Another feature of "Knowledge." Both X. and Y. "know" Eastbourne; and yet their knowledge differs widely. Both probably know the railway-station and the main streets, but after that their minds would recall very different groups of ideas. X. thinks of a certain school where he spent some happy years: Y. remembers an hotel where he met some friends—and vowed he would not enter that hotel again! There is clearly a large *subjective* element even in the commonest scrap of knowledge, an element which is differentiated, not only by varying memories, but by varying feelings, tastes, dispositions. Z. writes—"Yes, indeed, I know Eastbourne only too well: I wouldn't go there, if

you gave me an extra month's holiday to spend in the place." His reason is wholly subjective: he "detests your fashionable watering-places."

(5) And, finally, this difference in individuals is brought into still clearer relief when we note *to what use* people put their knowledge. X., who poses as a Socratic kind of person, has badgered several of his acquaintances with this question, "Do you know Eastbourne?" and he amuses himself by observing how their replies differ, as governed by this standpoint of use, or *application*, of knowledge. "I know it to my sorrow," was a bagman's answer. "Why, I spent three days there only a month ago, trying to sell Manchester goods, and I didn't take £5! I shall never go near it again." But an artist acquaintance told X. that he always went there in the spring, for he gets a certain kind of sea-scape which suits his pictures.

And, indeed, it appears that, if we have no use for our knowledge—if we do not, in some way or other, want it for association with some interest or pursuit—we may lose it. X. asked his artist friend if he knew Devonshire. "No," he replied, "I can't say I do. I was there several times—when I was a boy, but I have really forgotten what it was like; indeed," he added, "I cannot recall the names of the places where we stayed, although I made several sketches. As a matter of fact, the coast scenery is not of the kind that suits the work I have taken to." This man cannot be said to have a bad memory. He was merely illustrating the circumstance that knowledge fades and dies when it is not made use of.

It would not help here to investigate the causes which lead to this loss of knowledge, though they lie near enough to the province of the teacher. We speak of "fading" and "dying," using terms, as we always must, from the physical life to describe the psychical life. We are aware that some memories persist and can be revived: often they have never been recalled for years, and yet a stray thread of association may bring them back, as we say, to our recollection; or, as in the case of this artist, fail to bring them back.

The above analysis indicates some of the qualities of knowledge which tend to help it to persist. If it has abundant relationships with other ideas—if it fills a niche in the life of advancing thought—if it is found to be of use—such are normal conditions of retention.

The teacher has often, sometimes against his better judgment, to study how his pupil can gain knowledge which is to be retained only for a certain time, as, *e.g.*, up to the day of an examination. The art of "cramming" consists essentially in enabling the pupil to hold in his mind, for temporary use, a certain store of knowledge which is intended to fade as soon as the occasion (in examination) for its use is over. Such knowledge may or may not be "mechanical," or acquired in parrot-fashion, but is designed for temporary use, just as the contents of a brief are got up by the barrister, and, after the day of trial, got rid of again. This is an interesting, and, indeed, important field of study for the teacher, but we may assume for the purposes of this volume the psychology of memory.

Here, then, we have some elementary facts about Knowledge:—(1) It begins in the senses: Nihil est in intellectu, quod non fuerit in sensu. (2) No single idea or bit of knowledge is isolated, but tends to associate with the rest of our store, forming complex groups. (3) Some of these tend to varieties of *form* or quality—percepts, concepts, judgments, etc. (4) Knowledge is subjective—the same concrete knowledge differs in two persons because their tastes, experiences, etc., differ. (5) Knowledge is put to use, for the attainment of other knowledge, or for practical service, either immediate or remote.

§ 6.—One may combine these conclusions into a further observation, contrasting knowledge which is fragmentary, ill-associated, useless, with knowledge which is, by comparison, full, with *multiplied* relations, put to *many* uses. A schoolboy the other day was asked by X. if he knew Macaulay's *Armada*. "Yes, sir," he answered, "I learned it last term." He proceeded to rattle off a dozen lines, commencing: "Attend, all ye. . . ." He went so fast that he omitted some twenty lines, and before the listener could follow, he was reciting, "Ho, strike the flagstaff deep, Sir Knight"——. His knowledge had certainly begun with seeing (and possibly hearing) the word symbols: he had formed a complex idea of *Armada* and also of Macaulay, which enabled him to respond to X.'s question: he understood many of the words after a fashion, and this understanding implied some knowledge of the abstract ideas conveyed by these words. His knowledge, too, was personal, subjective: the flow of the rhythm had attracted him, and he enjoys the mechanical exercise of pouring out the lines; and he retains a good many of them, although he has no mental picture of the shifting scene as described by the author. He shows preference for the lively lines commencing with "Ho!" and he gaily skips what came before. This knowledge, then, *has* been retained, and will be put to use in a thousand ways which we cannot trace, influencing his speech, his feelings, his disposition. Much, however, of the poem is already passing from his mind.

Now, a good many people would say that the boy did *not* know the poem in any real sense at all: but the boy himself stoutly asserted that he did: "at any rate nearly all, sir!" Afterwards X. went to the boy's teacher, and asked him why the boy did not know the poem properly. "He knows it right enough," was the reply, "but he tries to go too fast, and then skips a few lines." The teacher here is of the boy's opinion—knowledge to him is an affair of sense-perceptions, in which the higher qualities of knowledge and those forms which exhibit emotion, play a minor part. X. concludes that the boy is entitled to say, if he likes, that he knows Macaulay's *Armada:* but his knowledge is unworthy of the subject. The next day X. chanced upon a crippled lad who had to gain his knowledge apart from school. When he was asked about this poem, his face brightened up. "Yes," he cried, "indeed I do—I love it." Why, last year, on Jubilee night, my mother had me carried up to Beacon Hill, and we saw the fires lit for miles and miles around us. It was a splendid sight. In the morning she got out my poetry-book, and read it all aloud to me. Afterwards I read it myself. Shall I tell you the story?" Thereupon he started off, and with face aglow, in language partly his own, partly his mother's, partly Macaulay's, told the history of that night.[1]

The cripple, like the schoolboy, has gained "Knowledge," which presents all the five features above discussed. But with what a difference! The difference is not one of kind, but of completeness, of intensity. Let our invalid now learn by heart the words of Macaulay, and he will recite them again and again with appreciation, with passion of which the schoolboy is incapable. Every turn of phrase will mean something to him: he will know the poem indeed—know it as the poet himself knew it. He will feel it, act it: will live out the spirit of the story, putting it to use in noblest fashion. It is obvious that the distinction we here make is relative: we cannot draw the line absolutely at any point and say—"This thing is known, that is not yet known: this is knowledge, that is sham knowledge." Our best knowledge is but a ray of light: "We know," as the apostle said, "in part": "through a glass, darkly." But in daily practice the difference is clear enough. The business of the teacher is to put light, the best, most intense light possible, in place of darkness. Intensity, completeness, is a cardinal quality of knowledge, and it sums up all the other features which have been indicated before: a pupil's knowledge of any portion of study must be adjudged as sound, honest, genuine, just in so far as it is complete, vivifying, active, up to the range of his capacities.

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[1] The reader will not put into these illustrations more than they are expressly intended to enforce. There is no suggestion that mothers teach literature better than professional teachers, or that the learning of poetry by heart is a mistake, or that a broken limb is an advantage to a pupil.

§ 7.—It will be observed that we have made no special reference to teaching in the previous paragraphs: the phenomena of mind are not invented for the teacher's benefit: they are observed in the daily life of men, women and children, the world over. The teacher cannot "give" knowledge: he talks professionally of imparting instruction, but the phrase is, as he perceives, inexact. Ideas are not a portable commodity which can be transferred from book or tongue to brain. It is better *not* to speak of "presenting" truths or of imparting knowledge, unless we can use such phrases in the same guarded sense that the physician intends when he claims to have "cured" a patient. In the one case, as in the other, "Nature" conducts the operation, and the operator merely arranges a plan which gives "Nature" a favourable opportunity.

Can the teacher, then, like the physician, propose some general method of instruction as a sequel to the observations he makes about the growth of knowledge? We think he can. In spite of the idiosyncrasies of his pupils, in spite of that "subjective" feature of knowledge for which we have made allowance, the teacher finds his pupils to be largely under his control, and he can, to a considerable extent, compel them all to perceive and think alike during the lesson. Hence, he can beforehand lay a plan of campaign. Let us take an example, and as we proceed to discuss it in detail, we can indicate principles of Method which it serves to illustrate, in their relation to the features of knowledge just discussed.

A class of boys, of the average age of twelve and a half, are studying Mediæval English History. They have just completed a Section on the Misrule of Henry III., taking up the story as far as the Provisions of Oxford. We will prepare the teacher's Notes of Lessons for the next Section: printing the actual notes in smaller type, and inserting comment on Method as required.

We must, first of all, determine the aim, or aims, that we shall have in view during these lessons. The immediate, business-like aim is to enable the class to "know," so far as their stage of development permits, the story of political events subsequent to 1258. This is the task imposed on the teacher of the class, and, even if he has views about "Material" which would lead him to regret the selection of such an occupation for these pupils, he is not now concerned to argue the point.

But there are various forms of knowledge, as we have seen; and we shall seek to create a knowledge which exhibits all possible good features. The events between 1258 and 1272 must form part of a complete story, throwing back to what has been learnt before, looking ahead to what follows.

And this association will extend beyond the range of English History—it will interweave the thoughts and feelings engendered by these lessons with other human interests of the pupils' lives. Most of these associations will, indeed, be beyond the teacher's control, and the Notes will give very little indication of the process; but the importance of such associations will be borne in mind.

While "the acquirement" of such sound knowledge is our immediate aim, we have other duties to fulfil at the same time. The Humanities must be correlated with the Arts (§ 2 (B), above). Books are used for reference and for reading: pictures may also be made available. These resources are not only to be regarded as means for "learning" the History: they constitute branches of the curriculum, and must be handled as such in our Notes of Lessons.

We have further to bear in mind that the study of History is accompanied by the development in the learner's mind of complex groups of ideas of various quality, tending always to more abstract form (§ 5, above). The Battle of Lewes is an isolated event; but the intelligence compares it, judges of it, combines it in a hundred ways. Even if the teacher ignores this activity, the pupil will be active if there is to be any real apperception at all. But he cannot afford to ignore it, if he desire to carry the whole class along with him in real thinking about the subject in hand.

Assuming, then, that the teacher knows the range of his pupils' minds, he will anticipate, when preparing his Notes, the line of thought most likely to satisfy their powers, and he will choose an "Aim" for this Section in accordance therewith. If their interest seems limited to the personal, biographical features of the story, he will proceed somewhat as follows:—

Section *n*. How Simon de Montfort came to blows with the King, and at last died bravely in battle.

But if the class are able to think in more abstract terms, he can substitute:—

Section *n*. How King Henry and his subjects continued to quarrel in spite of the Provisions of Oxford, and finally engaged in civil war.

We will adopt the latter of these two as the course most likely to issue in knowledge which is full and complete, as well as lively. For, since this Section *n* is a sequel to Section *m*, in which the class witnessed the miseries of misrule, we desire them now to arrive at some general conclusion as to the nature of the remedy which may end such trouble. A momentary remedy—in the Provisions of Oxford—has been found. The pupil, accustomed in a thousand ways to the settled ideas of this modern time, about majorities deciding laws, full of vague notions of Parliament, Cabinet, Town Council, and what not, such a pupil will be inclined to regard the Provisions of Oxford as a proper legal ending of the situation. This next Section, therefore, should aim to disabuse his mind; to help to an historic sense of what the Middle Ages were like; to an idea (for which his own stage of development is well adapted) of the need for strong rule, and even despotism (a form of government under which he suffers in the family circle and in the school).

Thus the teacher must anticipate the later portion of these Notes of Lessons—settling beforehand *in his own mind* what are the proper reflections which will come out of the story. This general thought about the need of a strong ruler is one—the most direct, and the most necessary, as an introduction to Edward I.'s reign. But others will probably arise from the strong personal interest created in the hero, Simon de Montfort.

I. Step. You have been learning in recent lessons about a great meeting at Oxford. Who will tell me all about it—what it was called, who attended it, and what it did? Now we will continue the story, and shall see that the Provisions of Oxford did not succeed in ending all these unhappy years of misrule, but we shall learn how the King and his subjects engaged in civil war. (Aim of the Section.)

This first step is commonly called *Preparation* (see Chap. XIII, § 2, below).[1] Nothing new has been taught. There has simply been a recapitulation of ideas already in the mind, and these culminate in a logical, interesting *Aim* for this Section. This Aim should be asked for at once from the class (especially from the inattentive members), and should be recalled again and again, as required, throughout the Section. It is especially necessary to recall it when each new lesson-period commences. This Section will extend over several lessons (perhaps a dozen), occupying the class quite possibly for three weeks, and the Aim must be kept clear, as the start to the whole intellectual exercise, until the end.

II. Step.—(1) The first trouble that arose can best be learned from a poem written at the time, which has recently been translated into Modern English, such as we can understand. It is about the Barons, who had all joined together as one band to help to rule the Kingdom. Open your Reader at p. 98 (*Simon de Montfort and his Cause*, one of Nutt's series of English History by Contemporary Writers). You notice the date (1259, the year after the Provisions were agreed to). We will read the poem beginning—

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[1] For a more developed treatment of the Humanities Syllabus, including dramatic treatment, see Chaps. IV to VII in *The Fielden Demonstration School Record*, as above, p. 170.

O mourn and weep, sad England, for, full of heavy woe,
Thou but beholdest miseries which daily bring thee low.
If Christ do not regard thee now, as He is wont to do,
Thy name will be a mockery to every haughty foe.

. . . .

So languishes our commonweal, the land is desolate,
And foreigners grow mighty on the ruin of our state.
Our native Englishmen are scorned as men of low estate,
And still must bear with injuries that no tongue can relate.

. . . .

Earl Simon, too, of Montfort, thou powerful man and brave,
Bring up thy strong battalions thy country now to save;
Be not dismayed by menaces or terror of the grave:
Defend with might the public cause; naught else thine own
need crave.

(*Twelve verses in all.*)

(*Translation by Mr. Gardner from "Rishanger's Chronicle."*)

Here the lesson becomes, for the time being, a Reading Lesson, and the teacher must follow principles of Method appropriate to the acquirement of that art (see Chap. XV, below) as one form of the Art of Expression. One or two of the verses may well be learnt for recitation.

You can also read (either in class or at home) the passage on pp. 97, 98, and notice especially what Simon de Montfort was doing after 1258.

It will be observed, also, that the class are engaged in making their own history by the aid of "original authorities." They cannot work out the whole of their history by means of such investigation, any more than they can gain all their knowledge in Natural Science by the so-called "heuristic" method; but the teacher cannot afford to neglect these resources.

After this reading, the class can put into a sentence or two the first reason why the Provisions of Oxford did not end the years of misrule; and to help the memory, the teacher writes on the Black-Board, and the class copy in their Exercise Books:—

Section *n*. How the Provisions of Oxford failed to secure order, and how civil war at last broke out.

1. Dissensions among the Barons.

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(2) The first mistake was therefore made by the Barons; some, like the Earl of Gloucester, were not really anxious to help England; others, like Earl Simon, were true to their duty, but were hot-tempered and too ready to quarrel. Also Earl Simon had duties to fulfil in France, for, as you remember, he was a foreigner. But the greatest blame must be attached to the King, for he determined to get free from doing what he had faithfully sworn to do. Look at your *Outline*,[1] and find what he did that was so wrong—

"1261. Henry receives from the Pope absolution from his oath."

Some of you may remember that another English king had already tried this plan. Find the notice of that occasion in your *Outline*—

"1215. Innocent disallows the Great Charter, etc."

Why was this such a wrong thing to do? So our next heading will be——who will give it me in two words?

(On Black-Board.) 2. Papal Absolution, 1261.

(3) "So all parties are now at strife again, and you can imagine how anxious all good men would be about the future of their country, and about their own safety when such fierce quarrels were taking place day by day. I have told you (Aim) that we shall hear at last how civil war broke out. But, before that terrible calamity, do you not think that the best men would try to keep the peace and get good government? What other plan can people follow when they have been quarrelling, and cannot agree?" "Umpire," "arbitrator," "referee," suggested by the class. "Yes, in those days they did not speak of 'umpire' or 'referee,' but of Arbitrator. Do we still use the word? (Some of the class may know the use of the term in connection with strikes.) But who could be invited to arbitrate between a king and his subjects? A foreign prince or noble, not any one *in* the kingdom. This is, in fact, what was done, and I will tell you the name of the arbitrator. He was a great and good

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[1] *Skeleton Outline of English History* (by Acland and Ransome), always at hand as a book of reference (see above, p. 182).

prince who ruled over France at that time, called Louis IX. You will presently be reading about him in your French book,[1] for he was one of the famous men of his time. He invited both parties to meet him at a place called Amiens,[2] and hence the meeting was called the Mise (*i.e.* Treaty) of Amiens. The decision of the arbitrator went against the Barons, and when you learn more about Louis IX. you will be able to understand why.

(On B.B.) 3. *The Mise of Amiens*, January, 1264.

This portion has been treated partly by a developing process of question and answer.[3] The teacher only tells the class the few concrete facts which cannot be inferred—the name of the arbitrator, the place, the result. They do the thinking under his direction. The skill of the teacher is shown in deciding which portions are suitable for study by reading, by narrative, or by question and answer. An inexperienced teacher finds the developing process difficult, because the class is likely to wander, unless their minds are kept well in hand.

(4) Let us now read on and see how the Barons behaved when Louis told them to obey their King. [Reading continued on pp. 113, 114: it is somewhat too difficult, and needs explaining by the teacher.] What should they have done when the arbitration went against them?

Here conflict of opinion in the class will arise. No rule can be laid down as to the length a teacher should go in permitting freedom in the expression of views, but it is clear that at points such as this the opportunity offers for the exercise of judgment on human affairs. The *neglect* of thought at such points is almost criminal. The teacher *can* suppress mental activity and compel his class simply to "*learn* their lesson," but he is ignoring the ethical aims of education, if he refuses to let the class consider clearly the moral issues involved in such a crisis.

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[1] Cf. p. 199, above.

[2] The class are doing the Geography of France concurrently with this Mediæval History.

[3] Called by the Herbartians *Darstellender Unterricht* (not to be confounded with the Socratic Method—see Chapter XVI, § 8). A full account of the theory of *Darstellender Unterricht* is found in Rein, *Das Erste Schuljahr*, chap. i. (see below, p. 321)

They refused to submit to their King, in spite of the fact that the arbitrator whom they had chosen directed them to submit. You can read the defence they made for their action (p. 114).

(On B.B.) 4. The Barons rejected the Mise, and prepared for war.

The next item in the story lends itself appropriately to dramatic narrative, for argument is now at an end, and the class may feel some slight echo in their minds of the excitement which possesses men when they are determined on war. A young teacher needs to prepare himself more carefully for this part of his lesson than for any other, since his work here partakes of the nature of dramatic art. If he cannot trust himself to produce the effect, he had better read aloud a passage from Green or other historian of dramatic talent. But he must practise also the art of reading aloud! He will use chalk as well as speech: a plan of the Battle of Lewes can be sketched in a few moments. The terms of the Mise of Lewes end the story (Reader, p. 131). The story should be told again by some one in the class, and he must NOT be interrupted.[1] Then the inscription is easy:—

(On B.B.) 5. A great victory at Lewes for Simon and the Londoners, 1264.

Along with this narrative, the teacher can utilise with advantage the "Incidents" on pp. 124–126, and 133–135 of the Reader. The class will not readily forget the miller, or the burgesses' carriage.

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[1] See Chap. XIII, below.

But the danger may be incurred of putting these incidents *in place of* the chief features of the story. Hence, it might be well to relegate such a passage to home-reading.

(6) (By development or discussion.) Now that Simon and his Barons were so completely victorious, what do you think they would do? They would summon another Parliament. And whom would they invite to share in it? All who had helped to win the battle. Hence, the important fact mentioned in the *Outline*—"Representatives from cities and boroughs," for citizens of London and other towns had been a great help to Simon and his cause.

But the very next entry in your *Outline* shows that the same causes which troubled the nation in 1259 were still at work. This Gloucester was the son of the previous Earl: at first he had been very friendly with Simon, but now had a bitter quarrel with him. And the end soon came in a second battle. [This story again serves well for dramatic reading or narration—especially in a school situated in the West of England or in Wales.]

(On B.B.) 6. Simon ruled well for a few months, but the war was renewed, and he was slain at Evesham, 1265.

This last portion may well be divided into two if more attention seems to be required to the constitutional interest of the story, but pupils of twelve and a half are scarcely ready to appreciate the importance of a Redistribution Bill. It would probably be more valuable to add a paragraph on the death of Simon :—

(On B.B.) 7. The people of England revered the memory of Simon de Montfort.

Now, at the beginning of the lessons, we set out to learn (Aim)—How King Henry after, etc. I wish some one to go over the story point by point, in the order of the headings in your Exercise Book. You can refer us, when you wish, to the *Outline* or to the Reader. The rest of you attend to the speaker, and if he omits any important point, you shall supply it afterwards. [In place of an oral review, a theme might be set for a home exercise: "Describe, in order, the important events between 1259 and 1265."]

III. Step.—(1) You seem to have got a clear idea of what happened during these years. Now tell me what you think :— Could the war have been avoided altogether? If the Barons had accepted the Mise of Amiens, for example? No, for King Henry was always breaking the Great Charter. Think back to the time when there had been civil war before—when Henry was a little boy. And at other times in his reign when they had nearly come to blows again and again. What was really wanted in order to keep steady peace from year to year? Were the Commons able to do this? Were the Barons? No, for they were so jealous of each other. Did the Churchmen help? Most of them were foreigners, and came to England for plunder.

What is the conclusion?[1]—Just as Henry II. came to the rescue with strong and wise control after the miseries of Stephen's reign; and the regent, William Marshall, after John's misdeeds: so now some strong and just prince was needed who would keep everything and every one in good order. This has often been felt in other countries and other ages: you can find the same truth expressed in the Book of Proverbs, showing how the miseries of countries in ancient days arose chiefly from the ill deeds of princes :—

"The prince that wanteth understanding is a great oppressor" (Proverbs xxviii. 16).

(2) And we may learn something, too, from thinking about the career of Earl Simon. Why did the people of England honour him so much above all the other Barons? Because he was faithful to his duty to the nation, instead of taking the part of his brother-in-law, the King, in oppressing the people. The old chronicler (Reader, p. 161) compared him with Simon Peter: we may compare him more fitly with that great Bible hero, who "chose rather to suffer affliction with the people of God than to enjoy the pleasures of sin for a season" (Hebrews xi. 25).

These two directions for general meditation seem to be expressly indicated in the story which is covered by de Montfort's career. Others might at this point be taken up, but they may just as conveniently be abstracted in a later Section of the study:—Such are, the creation of a complete Parliament, the story going back to the Witan of

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[1] This should be the *pupils' own* conclusion, otherwise the Presentation has only been partially successful (see p. 328, below).

William I.; the welding together of Celts, Saxons, Normans, French, into one people—the English nation. This can be taken up also at the end of Edward I.'s reign, or, still better, with Chaucer and Wycliffe, for the English tongue is the best symbol of the new English nationality: again, the cause of the poor in town and country; but this will come better as an abstraction from the stories of the Black Death, and of Wat Tyler's Rebellion. If any such topic, involving the review of a considerable stretch of history, were taken up, the class would then prepare a systematic *précis* of the salient facts, abstracted from this and the previous Sections. For example:—

THE MAKING OF THE ENGLISH NATION.

1066. William I. (Norman-French) conquered the Anglo-Saxon Kingdom, and gave most of the land to foreign nobles.

1071. Hereward, "the last of the English," surrendered at Ely.

1087. William II., elected King against the will of the Norman Barons, appealed to the English to help him in suppressing rebellion.

1100. Henry I. married Matilda (a princess of English descent) ("Godric and Godiva"), and he also relied on the English against the foreign Barons.

1135-1154. The civil war made the foreign Barons hated by the native-born English, who look still more to the King for aid against oppression.

1174. Henry II.'s just rule was rewarded by the help of the English, and of the new baronage, in the great rebellion of 1174.

1204. Loss of Normandy, Maine, Anjou, and Touraine. Many of the foreign Barons left for France.

1206. An Englishman elected Archbishop of Canterbury.

1213. The English Barons refused to follow John to France.

1215. The English Barons compelled John to sign the Great Charter, in spite of his foreign friends and of the Pope.

1216. And yet they are compelled to invite a foreign prince, Louis of France, to England.

1232–58. Henry III. continually invited foreign nobles and clergy to possess English lands against the wishes of his people. The best of these, Simon de Montfort, took up the national cause, and opposed the King.

1258–66. The citizens of the towns and knights of the shires were united with the English baronage in desiring to exclude foreigners.

This long struggle is really ended in the person of Edward I., whose English name was a prelude to his statesmanlike instincts in the leadership of a united people. Such a systematic review constitutes a distinct and indispensable element in the proper treatment of a nation's history. Much variety may be exhibited in the circumstances under which such reviews are undertaken; for every teacher will have his own mode of interpreting and combining the elements of the story. We are here only concerned to insist upon the necessity of this process, as a form of review, an abstraction from previously acquired knowledge, changed thus "into choicer, finer products, distinguishing primary ideas from secondary" (Chap. XIII, below).

IV. Step.—You will now be inclined to ask whether a strong prince, such as England so sorely needed, really did come to rule over our country. And some of you will have already guessed what our next story has to show to us. You have already found Prince Edward to be an able, vigorous prince, quite obedient and loyal to his poor father, and yet quite willing to work in friendly fashion with the Barons.

So in our next Section we shall see—How Prince Edward healed the troubles of England, and reigned as the first great monarch of the united English nation.

Thus we illustrate one of the essential features of sound knowledge. It is at once *put to use.* Our acquaintance with the career of Simon, the misrule of Henry, our secondary, derived ideas are all of service in enabling us to grasp the detailed incidents and the general bearing of Edward's reign, and give the starting point, the Aim, for Section *o*.

But this "application" is not the only mode in which such knowledge can be employed. We have already employed it, as occasion required, as material for the Arts of Reading and Writing. Other exercises can now find a place.

Before leaving the story of this troublous time, I have some pictures to show you which illustrate scenes from these days. By way of an Essay you shall write notes on these pictures, explaining their meaning, and connecting them if you can with anything you have learnt. In your next Drawing lesson you shall make a copy of the armour of the thirteenth century knight given you in your Reader, as an example of the sort of man who fought at Lewes or Evesham.

Or, you shall write an Essay, giving the arguments which you think may have been used by those who pleaded for, and against, Simon when Louis IX. was arbitrator at Amiens.

§ 8.—We have given this detailed example, not in order to indicate a special method for treating national history, but for the precisely opposite purpose—to indicate the common elements involved in the acquirement of *any* branch of knowledge. But with *us*, as with the old chronicler, thought is aided by comparison, and we will, therefore, offer another example, this time from Elementary Mathematics.[1]

Section *n* (Part I.) in Elementary Geometry (average age of class, thirteen).

This Section is planned as a part of a Course in Euclid's Geometry, *i.e.* it assumes that the class have studied the propositions I., 1–26. From earlier chapters in this book, the reader will have gathered that there is no desire to advocate the use of this ancient Greek work as an introduction to Modern Geometry; but, as it is still commonly employed in English schools, it will serve our present purpose. And this example will show all the more effectively how principles of Method can be employed even where the teacher is hampered in his selection of Material.[1]

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[1] We have also added in the Appendix a Section in Elementary Physics.

I. Step.—(1) In previous lessons we have learned a great deal about straight lines and the points where they meet. But suppose we have a pair of lines which do not meet at all![2] Let us draw some. M. shall come to the Black-board and draw others. Some *would* meet if the B.B. were larger. But one pair of lines do not look as if they would meet at all.

(2) Perhaps you can tell me of some real "lines" which are laid down so as not to meet: you can show me some in this room.

(3) No doubt some of you know the name given to straight lines when they are so drawn as never to meet at a point—even if they are produced ever so far? Parallel lines.[3]

(4) *Aim* of Section. We will then see what we can learn about this particular kind of straight lines which you call Parallel lines.[4]

First of all, let us see if we can find out a rule to guide us in judging exactly whether two lines are parallel or not. (Detailed Aim for the first part of the Section.)

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[1] We have referred above, Chap. VIII, p. 190, to the threat of drastic reform in the syllabus and method of School Mathematics, indicated by the success which appears likely to follow the efforts of Professor Perry and his followers (*e.g.* Castle: *Elementary Practical Mathematics*, Macmillan, 1900, 1901). So far their efforts have been mainly confined to Technical Schools and to artizans, but if their *principles* are sound, they will soon overflow into all types of school.

[2] We do not raise the issues involved in departure from the plane surface: logically our course of study may be less complete because of this neglect, but psychologically we are justified: just as the teacher of Geography is justified in leaving the young child to assume that the world is flat until the psychologic moment comes for apperceiving the globe.

[3] The logical place for this is in Step II. as new information, but as a matter of fact the class are sure to know it.

[4] The systematic "learning" of the definition is delayed until the process of apperception is complete (see below. Step III.).

II. Step.—(1) Let us name two pairs of lines: A B, C D, which look like parallel lines, and M N, Q R, which will certainly meet.

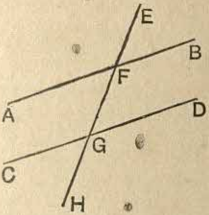

FIG. (*a*).

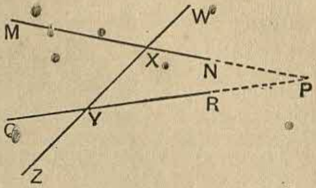

FIG. (*b*).

The first pair remind us of a regular railway track: suppose we make, what you often find in the country, a level crossing, running from E to H, and crossing at F and G. Let W X Y Z cut M N and Q R similarly. We will call E H and W Z "the crossing lines." Now produce M N and Q R till they do meet—at the point P.

What are we in search of? Some rule to enable us to make sure when a pair of straight lines *are* precisely parallel. We have drawn our crossing lines to help us, and you notice at once a number of angles at the crossing points, F, G, X, Y. You will guess that our rule has something to do with these angles, for you have already learned a good deal about angles.

[*Note.*—At this point the quick superficial minds jump to conclusions—some wild enough. A clever mind may already be half way to the end: but there is no need for hurry.]

(2) Before going further, let us give names to these angles. How many in each figure? How many inside the crossing? How many outside?

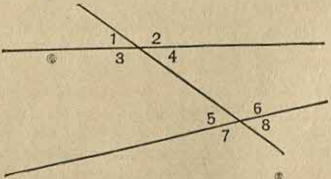

FIG. (*c*)

We will therefore call 3, 4, 5, 6 interior angles, 1, 2, 7, 8 exterior angles. And you can separate them also according as they stand on the right or left hand side of the crossing line: thus 2, 4, 6, 8 are on the same side. Now practise naming these angles in relation to each other. How does 1 stand in relation to 8, to 4, to 5, etc.? There is another way of speaking about the interior angles: 3 is said to be "alternate to" 6; 4 and 5 are also a pair of "alternate angles."

You will remember also that you know certain facts about some of these angles. From Proposition 13? Name pairs of supplementary angles—pairs of opposite angles. You can tell me a proposition about these pairs.

The objection to learning numbers of propositions in a course of Geometry is precisely the same as the objection to learning dates in History, formulæ in Chemistry, or the technical terms of an Art. If numbers and technical terms are learned by rote as a substitute for apperceiving ideas, they assist the mind to grow stupid, but if they come as a conclusion to thought, as a symbol of logical order, they are helpful, as time-saving appliances of all kinds are helpful. If the teacher refuses to give numbers, he is all the same compelled to group his series of propositions in a logical order, and the pupil therefore does a kind of *dis*orderly numbering for himself.

Now say all that you can about the relation of 1 to 4. They are opposite and therefore equal, and 1 is "exterior" and on the other side of the crossing line. Similar exercises till the class are at home in the phraseology. When this is concluded, Fig. (*c*) may be dropped.

(3) We will look at Fig. (*b*) again (recall our 'Aim' if necessary). Pick out a pair of alternate angles. Which of them is the greater?

The clever boy, if he has properly apperceived Proposition 16 has already noticed that XYP is a triangle and has inferred accordingly. He has very possibly made the comparison with Fig. (*a*) and formulated accordingly. The average boy will now begin to do the same. The duller minds will still hang fire, and it is these who need careful handling: they, too, will soon become quick at geometrical inference if they are led step by step and allowed to share in the lesson.

Hence, in Fig. (*b*) the pairs of alternate angles are *unequal*. What about Fig. (*a*)? "Oh, please sir, they are equal!" "How do you know?" "Well, they look like it." "Yes, but can you make *quite* sure? looks are deceptive!"

The clever boy can, for he has grasped the bearing of the phrase "produced ever so far," but we hold him back a little.

(4) Let us draw another figure (*d*). Here the point is a long way off: the lines are a long while before they meet.

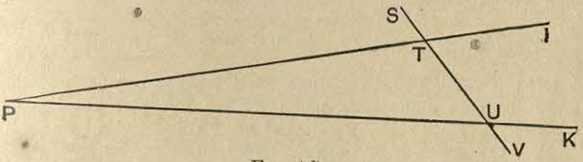

FIG. (*d*).

Are the alternate angles equal? Not quite. Why not? Proposition 16.

Now imagine in Fig. (*b*) that P is many yards away. XYP will still be a triangle, but the alternate angles will be getting very nearly equal, for the lines MN and RQ will be nearly parallel.

III. Step.—(1) Now you can, most of you, see what our rule is going to be, for if we have a pair of parallel lines, which do not meet at all (when produced ever so far either way), the alternate angles would get to be quite equal.

(2) Let us then put our rule into an exact form of words:—When one straight line crosses two other straight lines, so as to make a pair of alternate angles equal, the two straight lines will be parallel.

(3) I will now give you this statement as a proposition for which you shall give me an orderly proof, commencing with a particular enunciation, and employing the method called *reductio ad absurdum*, which you have already found useful (in Proposition 6). What was the "absurd" Hypothesis in Proposition 6? What "absurd" Hypothesis will you here "assume"? Our new proposition is numbered 27 in Euclid's Geometry.

(4) The Hypothesis of 27 can be put in other ways, if you wish. Go back to the facts we discussed about the eight angles made by the crossing line. To say that /AFG = /FGD is the same as to say that /EFB = /FGD: *i.e* an exterior angle, etc., or the same as to say that /BFG and /FGD together are supplementary. State, then, our rule over again under such conditions.

IV. Step.—Write out a proof of the following proposition (it is numbered as the first part of Proposition 28):—If a straight line meet two other straight lines, so as to make the two interior angles on the same side supplementary, the lines will never meet, although produced ever so far. You can prove it by assuming 27, or independently of 27, just as you please.

State the enunciation of the second part of 28, which deals with exterior and interior angles on the same side, made by a crossing line. Prove this proposition also.

Section *n* (Part II.) in Elementary Geometry.

I. Step.—We have now done what we set out to do: we know how to make sure, when we see two straight lines, whether they are really parallel or no. What should we do? Draw a crossing line and measure certain pairs of angles (recapitulation of Part I.). But the matter may be put to you in another way. Here, Fig. (*e*), are two straight lines which we are told *are* most certainly parallel: can you be positive that the alternate angles will always be equal, or that the two interior angles on the same side will *always* be supplementary, wherever we draw the crossing line?

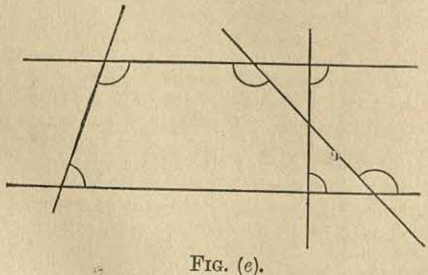

FIG. (*e*).

Can we, in fact, be quite certain that this is a real "property" of parallel lines? You have used the term "property" before: you know, *e.g.*, the property of an isosceles triangle. Here, then (the *Aim* before us), is a new proposition for you to prove: the property of parallel lines, put in three different ways.

Part II. is a logical *tour de force*, which some teachers very properly omit on a first reading of Euclid, Book I. Our clever boy may detect the weakness of our attempt to give a practical basis to the argument, for he will ask, "How can you know that you have drawn the lines parallel unless you have measured the angles, and if you *have* measured them, why not be satisfied?" But he has already had experience of converse propositions.

II. Step.—(1) Use the method of *reductio ad absurdum* which has helped you in 27 and 28.

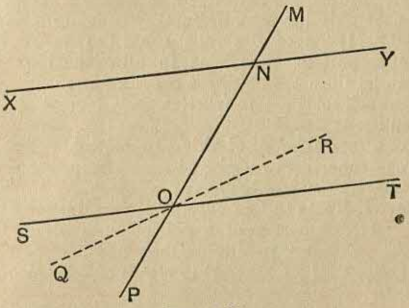

Fig. (*f*).

If you think ∠NOT (Fig. *f*) does not equal ∠XNO, make ∠NOR equal to it (by Proposition ?). Then what have you learned in Proposition 27 about QR and XY? Hence (?), ST and QR are both parallel to XY, both passing through O. Can this be possible? The line QR *must* run exactly over the line ST, which means that ∠NOT = ∠NOR = ∠XNO.

(2) Try the same absurdity with another pair of alternate angles, or with a pair of angles, one interior, the other exterior, on the same side.

(3) Try again a pair of interior angles on the same side

(Fig. *g*). If /X N O and /N O S are not supplementary, suppose the angles O N R and N O R to be supplementary. The new line N R cannot be parallel to S T, for N X is parallel to S T: hence it must meet S T somewhere or other. Thus we have a triangle N R O. This, again, is absurd, by Proposition 17. In other words, /R N O and /N O R are supplementary only when R N O ceases to be a triangle: that only happens when R N runs along over X Y.

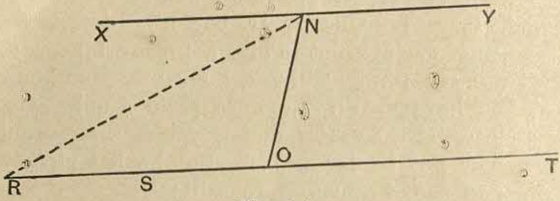

FIG. (*g*).

III. Step.—(1) These different examples make it clear that the "properties" are true in all situations when a pair of parallel lines are met by a crossing line.

Let us enunciate these properties as a formal statement: Proposition 29.

(2) Make a formal proof of this proposition, selecting any of the three properties to begin with. (Deductive proof.)

(3) Summarise our conclusions:—

From Part I. Tests to *find out* any if two lines are parallel.
II. Properties of a pair of lines which we *know* are parallel.

IV. Step.—(1) Here (Fig. *h*) is a point, P, near a straight line, X Y. I wish to draw a line through P exactly parallel to X Y: Proposition 30.

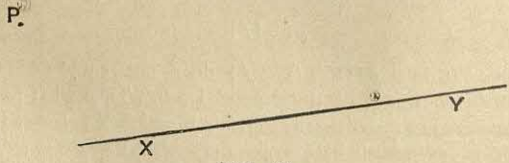

FIG. (*h*).

(2) So with Proposition 31.

(3) Here (Fig. *k*) I draw two crossing lines, meeting exactly on one of the parallel lines. Apply what you have

learnt about the properties of parallel lines, and find some useful facts about the exterior and interior angles of the triangle P Q R.

Hence, prove formally that the three angles of every triangle together equal two right angles. (Proposition 32.)

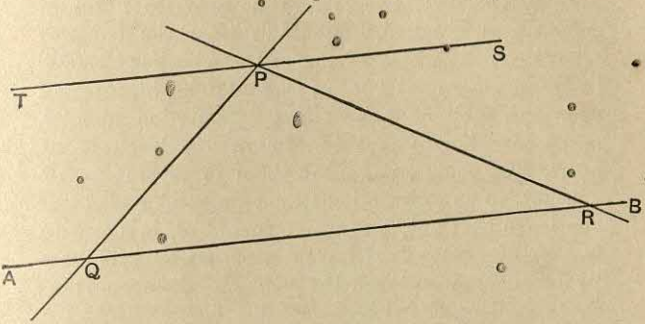

FIG. (*k*).

(4) Riders of various kinds, so far as time permits. If the class can *make up some for themselves*, all the better.

(5) Practical applications: see, *e.g.*, p. 87 in Richardson's *Progressive Euclid*.

(6) Application to Section *o*: The Properties of Parallelograms.

§ 9.—*A Dialogue: New Lamps for Old.—O. S.* Teacher of the "Old School." *A.* Author.

O. S. I have quite enjoyed reading your scheme of lessons for Euclid, I. 27–32; all the more because it proves, as I have always thought, that these new-fangled methods are just like the old. Apart from your farrago of technical terms—Presentation, Formulation, and the rest—you are doing precisely what I have practised for years.

A. I am delighted to hear that. There is, of course, nothing new under the sun, and, as I have said in a previous chapter, sound theory is merely the outgrowth of sound practice. But, tell me, have you got any notes of lessons on Euclid, Book I., which exhibit this style of treatment? If you have, I should immensely like to see them, for a comparison of your way of doing things would be useful.

O. S. Oh, no! I have no time to write notes of lessons, and, if I had, I shouldn't take the trouble; I have got the whole scheme of these books of Euclid in my head. What I mean is, that I begin, just like you, with preliminary talk and explanation about a proposition before I set the fellows to learn it by heart. Of course, you mean them to get it up, do you not, so as to have it at their fingers' ends? If you leave that out, I think you will fail, in spite of five, or fifty, steps. I have no patience with these "reformers," who think that learning lessons is as easy as eating cherries.

A. I'm sorry: we *don't* see quite eye to eye! We should differ, I expect, somewhat as to how and when our pupils should "learn by heart." But let us try and see what the difference really amounts to. You cannot show me your notes, for you haven't any, but perhaps you can remember a lesson you have recently given, and tell me what you did.

O. S. Well, as it just happens, I have been taking my fellows only this last week in these propositions, and that is why I congratulated us both that we seemed to use the same methods. So, if it will amuse you, I will try and tell you how things went. Let me see, I began Proposition 27 a week ago; the class had done up to 26 last term, but I found that they knew very little about the earlier part; so we had been spending the first month of the term in revising. Your theorists don't object to revision, I hope?

A. Oh, no! The treadmill is a little dreary, but the school-boy will stand a good deal of dull grind;

and after about a dozen revisions he often really can write out his Euclid correctly: sometimes he can even do it if you change about the letters.

O. S. Exactly; and we have got to see that he does it: no amount of your "interesting" teaching will make up for that. Well, about my lessons. We were breaking new ground, and I had a fair amount of time for the work, so I started, just as you do, by playing around the subject a bit. Of course, they knew the definition of parallel lines already, for they have learned the definitions at the beginning of Euclid over and over again, and some of them have done Geometrical Drawing too. So I made them tell me this definition, and then I told them that the next few propositions were all about parallel lines.

A. I hope they all "knew" the definition?

O. S. Oh, yes, they said it pat! Why, most of them had had to write it out twenty times for having made a muddle of it in an examination six months ago. Then I took what you have down in your Notes as Fig. (*c*), though why you should label it Step II., and spend half-an-hour over it, I don't know. My boys caught the idea at once, and we were ready to get on to Proposition 27 in five minutes.

A. Half-a-minute! how do you know they caught the idea? There are, of course, three ideas at least to be caught!

O. S. I only know that they answered my questions smartly, and seemed to understand; a few of them mixed up interior with alternate, but I have a stupid set in my class who always hang back. They will catch on presently.

A. Or, if not, there is always revision to fall back upon.

O. S. Well, you cannot wait until the dullest boy in the room knows as much as those at the top:

When I started 27, I did just as you do. I first showed them that it was quite an easy matter: you had only to remember that if two lines are not parallel they will meet to form the sides of a triangle, and that then 16 comes in. I don't see the use of having the two figures (Figs. *a* and *b*) which you have drawn side by side; it only confuses the class, and leads to mistakes when they have to get up the proposition afterwards from the book.

A. Quite so: that is one of the points where we differ.

O. S. Yes, you seem to me to make mountains out of molehills. I then went carefully through the proposition step by step, showing them the necessity for proof by *red. ad abs.*, and then I got one of the best boys to come up and go through the proposition on the blackboard.

A. I see; until then, you had been hard at it, and the boys had been listening? You certainly are an example of industry.

O. S. Oh, no, do not misunderstand me! I do not believe in lecturing to boys any more than you do: I constantly question the fellows, and get as much out of them as I can. But you cannot expect them to do a proposition until you have shown them how? However, at the close of the lesson, I set them to read up this proposition, and also 28, for home-work: I just added a word or two about 28, showing that it is another way of putting 27.

Now, is there really very much difference between your way and mine, when your Notes are stripped of the high-falutin' theory?

A. Yes, there are fundamental issues on which we differ; and in practice there would be this patent difference—you would "get through" in an hour what would take at least three hours with me, for I should wait for my boys to discover the ideas for themselves, just as Euclid had to do; all I should personally do would be to keep them on the track, and let them go their own pace; you drive them at your pace, and I guess they will have to be driven up and down that same road a few times more, by you or your successor. Have you tested them yet, to see whether they had accomplished their task?

O. S. Of course I have; and they did very decently. As I told you, I make my boys work, and if they don't get up their home lessons, I know the reason why. Most of them wrote out 27 very decently; the best of them did 28 as well, although they muddled up the angles a little. Your elaborate Notes read excellently on paper, but how are you going to manage about Home Lessons? You say nothing about them. Don't you want another "Step" to meet this practical necessity? If I left that out, I should expect some plain-spoken "Formulation" from my colleagues!

A. Undoubtedly; and you would deserve it, if you neglected the rules of the place with reference to such matters. But if I were your colleague, and had to take on these boys the term after they have "done" these propositions with you, I should complain on another ground. I should tell you that they had a merely mechanical recollection of this part of Geometry; a vague, uninteresting set of ideas which would be only a hindrance to full knowledge. I should find that they had no vivid apperception of the details, no clear systematic formulation of the principles, and hence, little practical power in application. I should praise your industry and theirs, but I should maintain that you were destroying their intelligence. And even if the ablest boys, as they well may, have got an intelligent hold of Euclid's argument, they have succeeded in spite of your teaching, and you will have abjectly failed with the majority, who *need* a teacher.

As to Home Lessons and their relation to these Notes, that is another matter.[1] There are many features relating to daily practice which are necessarily omitted from such a sketch as this, which vary with the length of lessons as well as with the arrangements of the Time Table. If I had to set Home Lessons as a part of this instruction, I should try to delay having to let them work on the subject at home until we had got to the Applications. But if I were compelled to set a lesson before reaching that step, I should certainly not let them use a text-book, but I should let them take home a sketch of the figure, and write me some exercise by way of revision or variation on what we had been doing in Presentation or Formulation.

O. S. Then we must agree to differ!

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[1] See p. 403, below.

Note, 1910.—A word should be added to the note on p. 296 prophesying further reform in the teaching of Elementary Mathematics. The Memorandum eulogised on p. 260 shows how rapidly the change is being effected. Many teachers, and the present writer is one, would not now attempt to prove the properties of parallel lines which have been worked through in the above pages. But, as stated in the text, their value for the purposes of this chapter is not diminished; they are merely offered as illustration of Method in preparing schemes of teaching. Whatever value they have depends on the application a teacher may make of *the scheme* to other lessons. And the hope held out, on p. 274, of further research on Types of Lesson is being fulfilled: Bagler: *The Educative Process* (Macmillan) and Welton: *Principles of Teaching* (Clive & Co., 1908) mark a substantial advance in this branch of educational theory.

CHAPTER XIII

THE ACQUIREMENT OF KNOWLEDGE (*continued*)—STEPS FOLLOWED IN THE PROCESS.

Anschauungen ohne Begriffe sind blind; Begriffe ohne Anschauungen sind leer.—KANT.

§ 1.—THESE Notes of Lessons, together with the Science Lesson added in the Appendix, offer variety sufficient to illustrate the principles of method here advocated. We are now prepared to formulate these principles in systematic order.

Once again we desire to emphasise, as a matter of professional business, this need for system. Readers accustomed to peruse the older manuals on Education will have recognised in these notes of lessons some familiar canons of method. We too have "proceeded from the particular to the general"—(and back to "the particular"); or, "from the Concrete to the Abstract" (*Anschauung zum Begriff*); from the subjective to the objective; from the simple to the complex. But these elementary canons, though true enough as far as they went, are unsatisfactory as an exposition of method, because they are so indefinite. What is concrete? What is subjective? When are we to correlate? These are the difficulties in systematic practice which the older theory, as expounded by Bain and other writers of his time, did little to solve. In establishing some kind of system for schemes of lessons, the teacher goes beyond psychology, and discovers his Method in the daily experience of the class-room.

The Distribution of a Course of Study into Sections.—We have already[1] indicated the special use of the term "Section" in the construction of lesson-notes. No one seriously undertakes the task of teaching a class for a term without a forecast of the route to be followed, and of the stages into which the journey should be broken up. A vague forecast, however, based as it often is upon some text-book or other plan of study *alien to the class who are to be taught*, is not enough.

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[1] See p. 268, above.

The following will be recognised as some of the main features of a good sequence of Sections in a branch of knowledge.

(1) The teacher, on undertaking the duty of instructing a class in any given branch, will inquire as to their previous knowledge of this branch, and will start from that point. This inquiry is often unsatisfactory: a new teacher may think that his class "know nothing" when he first takes them in hand (especially after a long vacation!). But it is a mistake to be for ever revising old knowledge. The average attainment of the class must be taken as the starting-point for the new work. In some branches it is possible to divide the class, taking a few specially advanced pupils, or a few specially backward pupils, separately: the thousand difficulties of this nature which are presented, especially in small schools, belong rather to school "management" than to school teaching.[1]

(2) He will plan his Sections with a view, wherever possible, to correlation with other branches taken by the same class.

(3) He will make his divisions between one Section and another depend upon *some new idea or group of related ideas*, which form by themselves a complete whole, but which are at the same time a unit in an extensive scheme of study related in all its

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[1] Chap. XVI, below.

parts. Thus, in English History—"The misrule of Henry III., "The success and failure of Simon de Montfort," "The foundations of Modern England under Edward I.," "The two Border Countries: Wales conquered, Scotland unconquered." These titles for Sections form a sequence simple enough, and easily understood by children of twelve and thirteen, but not wholly mechanical. If, in their place, the class retained a memory of their history in Sections as follows—1199–1216, John; 1216–72, Henry III; 1272–1307, Edward I.,—they would have gained nothing to aid their minds towards intelligent thinking about human affairs.

(4) This distribution of Sections, however, will not be the same as that adopted in teaching the adult mind. The scholar, when reviewing his studies in any science, can survey the field, backwards as well as forwards, and interprets, in a far deeper sense, the simple forms of thought which satisfied him in younger days, but which now appear defective. We are familiar with this distinction in the teaching of Mathematics. No one puts Salmon's *Conic Sections* or Hobson's *Trigonometry* into the hands of an average pupil, when he studies these branches for the first time: but the distinction is constantly overlooked by teachers in other branches. In History the child is plagued with the complicated issues relating to the constitution of the early Parliaments between 1258 and 1307: in Science he is treated to "object-lessons" in magnetism or the steam-engine, before he has observed or thought about the simplest phenomena of his daily life. Hence, the order of a series of Sections must be a psychological order; *i.e.* it must follow the sequence of ideas demanded by the nature of the child's mind. True, in later life, the riper intelligence of the scholar may shift

about this order, but this need not be a process of unlearning—merely of adjustment and enlargement.

(5) The time to be spent on each Section is a matter of less importance. For the purposes of school arrangements, it is necessary that a Section should not be left over from one term to another, but the only rule, from the standpoint of pure teaching, is to spend sufficient time upon each Section to enable the class to complete the process of apperception—a process, as we shall see, which is only ended when the class show that they can "apply" the new knowledge with success.

Having settled in his own mind a summary view of the new line of thought to be opened up in the Section, the teacher now turns his attention to the mode by which this topic is to be handled.

We have divided the whole process, in the examples offered above, into a series of "Steps," each characterised by its own features separate from the others, and each of them essential to a complete mastery of the Section. They are not devices of the teacher, invented like a clever toy to dazzle the child's mind: they are rather analogous to the operations of an inventor in the field of mechanics or chemistry, for they are merely intended to *facilitate* the *inevitable processes of nature.* Edison achieves his startling results in Physics simply by recognising laws and processes in Physics which he understands better than his neighbours: the result of his discovery is merely to give the sun or the air or the iron a better opportunity of displaying *their* powers. So with our class: the teacher's task is simply to forecast a systematic mode of procedure, based on recognised principles of apperception, and then to stand by and await the result. If the "Method" prove faulty, the error is not in those principles, or in our efforts to reduce these to system, but in our ignorance, or neglect, of other and deeper laws relating to mind or to school practice. We grant the possibility of further discovery: meanwhile, we are on firm ground if we follow the light we now possess.

§ 2. *The First "Step": the Preparation.*—"Fine tact forbids one to present, pell mell, weighty and unexpected communications. The orator regards it as necessary, even with an adult audience, to preface his lecture with an introduction recalling well-known facts."[1]

(*a*) *Intention* of the Preparation. A good preparation will enable the subsequent steps to proceed without interruption. It brings into the field of consciousness those particular thoughts and feelings which are germane to the issue. It recognises the immense gain of securing beforehand an intellectual interest in the new pursuit, and it foresees that this interest can only be created by calling upon the learner to produce all that his mind already possesses which bears upon this new pursuit. Hence, we observe

(*b*) The *Content* of the Preparation. Negatively, it *contains no new knowledge.* Very often it consists wholly in a reproduction of the knowledge gained in a previous Section—a reproduction, however, which is not a mere mechanical revision of a previous lesson, devised as a so-called aid to memory, but a recapitulation of certain elements in that Section, which are selected for the definite purpose of preparing the mind to break into the new ground.

A good Preparation, however, will seldom be confined to the subject-matter of a previous Section. For the teacher's purpose is to create an absorbing interest in what is to follow. Now it is true that such an interest can be "acquired"[1] after a time, especially by the more intellectual type of pupils, and by adult students, in the study itself, apart from any wider point of view. Indeed, this interest may be abnormally developed, until it becomes unhealthy:—the scholar who is so absorbed in Mathematics as to be content with a life of problem-solving has surely missed the highest ends of Mathematical teaching. Hence, for two opposite reasons, it is right to widen the scope of the Preparation, and to include relationships (i.) with other, correlated branches of study, (ii.) with homely, familiar ideas lying without the circle of general school teaching, but quite within the sphere of the pupils' interests.[2]

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[1] Lange, *Apperception*, p. 201.

(*c*) In contrast then to the next Step, this Preparation is limited to an *analysis*, a sifting and regrouping of what the pupil already possesses. It culminates in a definite expression of expectation, which we denote by the technical term *Aim*. Our pupils are reasonable beings, who have a right to know the purpose for which they are called together. True, a child should always obey his teacher, and we exact his "attention" by virtue of our office. But if the pupil at the commencement of a new Section of knowledge merely receives the order, "Attend to me," or is bidden to "Open your books and read Chap. XIV," or "learn Proposition 27," we are relying too much upon the duty of submission.

Why, after all, should children "attend" to us? Are they (or for the matter of that their parents) so overwhelmed with the majesty of truth, with the wisdom of the teacher, as to be eager to drink at our fountain from hour to hour and year to year? Unless they appreciate a distinct, detailed Aim in the Section or Chapter which lies before them, they may be pardoned for inattention.

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[1] See p. 38, above.

[2] It will be observed that these are not suggested in the Lesson Notes given in Chap. XII, for they are bound to differ in every school and every locality.

This *Aim* must be distinguished sharply from subordinate "Aims," which may be selected to indicate the different portions of the new knowledge, and from the artificial divisions of the Section necessitated by breaking off the instruction at the end of a lesson-hour. These interruptions must not be allowed to interfere with the orderly conduct of the Section. If "time is up" while we are in the middle of our story of Evesham, we must submit; some one in the class is called upon to tell us briefly how far we have got in our story, and we inquire "Where will to-morrow's lesson begin?" This gives a Lesson-Aim for the next hour devoted to this branch. When that hour has arrived, the teacher's first inquiry will be "Where did we get to last time? What have we now to undertake?" and thus the course of the Section is resumed. The Lesson-Aim has served its temporary purpose, keeping the class steadily on the line of thought. But the Aim of the Section runs through all the lessons comprised in it, and the pupils' attention will need, time and again, to be recalled to this Aim.

This Aim has the further advantage, especially to young teachers, of compelling them to keep the analysis within bounds. The danger is evident that the lively members of the class will bubble over with suggestions, and the discussion may roam far afield unless the teacher guides it to the expression of this definite statement of the business in hand—a statement which must be expressed by the pupils as well as by the teacher.

(*d*) The *Form* of the Preparation is, therefore, that of question and answer. The answers may often take the form of continuous narrative, especially when the teacher desires to reassure himself that the weaker members of his class have really grasped the previous Section. The principal part in this

Step is to be borne by the pupils: the teacher merely suggests the line of thought, and watches in order to see that the analysis brings out the salient points of interest. If, in a Preparation of half-an-hour, the teacher has taken up more than five minutes with his own voice, the Step has failed.

(*e*) *Hindrances* to a good Preparation are readily inferred:—

(i.) It is difficult to teach strangers. This Step demands that the teacher shall know his pupils' mind-content, and such knowledge can only be thoroughly gained by intimate acquaintance. But a teacher who has worked much among children can often guess shrewdly the sort of ideas which a new class are likely to have—just as an experienced platform speaker can hit off the apperceiving ideas of a popular audience that he has never met before.

This consideration indicates the advantage gained by a teacher who takes the same class for a considerable time every week, and for a long period of weeks. A poor teacher who comes to know his pupils may do more, if he has time allowed him, than a more capable teacher whose strength is dissipated over a large number of classes.

(ii.) It is difficult to teach multitudes. If teaching were the same as lecturing, there would be no objection to classes of sixty or one hundred; but, since this Preparation is a process undergone by each pupil, one listening to another, it cannot be effectively done if the class is too large for familiar conversation.

(iii.) The pressure of Examinations often hinders the Preparation. The teacher is tempted to lay stress on the rapid acquirement of the new knowledge. He knows that with adult students this Step may be largely dispensed with, since the mind is more able to summon the necessary apperceiving aids of its own accord: hence, ignoring the world-wide differences between the adult and the child, he "jumps" the first Step, and takes pride in the fact that he has "done" so much in a short time.

(iv.) A practical difficulty is often felt by beginners in distinguishing what is "new" from what is "old": for pupils differ so much. A slow pupil may know some things, but these will not rise over the threshold of consciousness when required: or, one pupil may produce thoughts homely and familiar to him, but foreign to the rest. If what is "new" to some is "old" to others, and *vice versa*, how can the teacher adhere to the dictum to exclude all that is "new" from the Preparation?

The difficulty can scarcely be met otherwise than by experiment. It is clear that the needs of the bulk of the class must be the teacher's guide: endless recapitulation of half-forgotten knowledge is wearisome: at the same time, to attack new fields while leaving enemies in the rear is dangerous in the class-room, although permissible in a campaign. The difficulty is much greater in Humanistic than in Scientific studies, and for this reason it is an excellent thing if a young teacher can be put to teach in Mathematics or Science as well as in History or Literature.

The teacher, discouraged by failure, must be content to recognise that knowledge is always imperfect. And he may be consoled by observing that minds arrive at truth by as many routes as the waters take to reach the ocean. Let him be content, when he finds his pupils keen to recall the old lessons, clear in recognition of the new Aim: if on minor points some minds are uncertain, if here and there novel incidents have sprung up, he need not be disturbed. There are weeds, there are stony places, in the best of fields; but good ploughing may be trusted to prepare for good sowing; and the teacher is no more the master of his pupils' minds than is the farmer of the winds and showers.

§ 3. *The Second Step: The Presentation of New Knowledge.*—When once through with the Preparation there should be no further beating about the bush. Our Aim is clear—we all know what we have got to learn, or discover, or discuss—now let us set about it, each for ourselves, or all together, as the case may be. If the Aim is to be achieved in the Laboratory, each pair of pupils go to their own bench, and in their own time achieve the experiment; if by reading or by hearing a narrative, all will be working together, but every mind will work along its own path, and the teacher is still only a guide.

(1) The *Intention* of this Presentation needs comment only by way of contrast to the other Steps. It is limited to the individual as opposed to the universal, to the concrete as opposed to the abstract. It relies for this limitation upon the psychology of Ideation, which warns the teacher against confusing elementary ideas with more advanced ideas. Judgments cannot be decided without much weighing of particulars: the concept is nothing but words, unless it springs out of a multitude of percepts. First observation, then varied observation, comparison with earlier observation, and finally—as the crown and completion of these particular experiences—the new, higher form of thought. The properties of parallel lines are universal doctrines: if the teacher will, he may declare them by his own authority, and his pupils will then learn them with the mechanical submission due to such authority; but if he be indeed a teacher, he will let the doctrine emerge out

of a variety of single presentations, and be welcomed at last as the ripe harvest of a process which began with a Preparation, and which was strictly limited during this step of Presentation to those single presentations. And, in contrast to the Preparation, it is synthetic, a presentment all the time of what is new—the new ideas seizing upon the old, combining eagerly and spontaneously with them, delighting in the antithesis between the familiar and the novel,[1] exhibiting in the process lively emotions of pleasure, since apperception is a natural human activity.

(2) *Features* of a good Presentation. (i.) The Section usually covers a considerable portion of ground, and hence the Presentation needs to be divided, or, to use a technical term, to be well "articulated." Each of the topics should be treated apart; usually they should be concluded and "pointed off" with some summary or other rubric to help them to be kept in their place, and it is well to have a note-book in which these memoranda are entered lesson by lesson. (ii.) After being absorbed [2] for a time in the pursuit of one such topic, the mind takes a breathing space for reflection,[2] and then proceeds to another topic. These alternations, which have been happily compared to inspiration and expiration of breath, give steadiness to the whole process of acquirement. The Aim of the Section is held aloft throughout; after each topic has absorbed the attention solely to itself, the mind reverts gladly for a while to reflection and review.

Here the necessity should be emphasised for letting this review be *uninterrupted*. Let a pupil stand up and say *all he can*, in his own way, about the topic that has been handled during the preceding half-hour. Pupils learn self-confidence in speech, power in composition, as well as secure a complete control over the topic in question. *After* he has finished, others may supplement or criticise. (Similarly, any necessary recapitulations in Step I., or on resuming a lesson after an interval, should be done by a pupil in CONTINUOUS speech, without petty interruptions or corrections by the teacher.)

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[1] Lange's *Apperception*, pp. 217, 218.

[2] Compare Herbart's terms *Vertiefung*, *Besinnung*.

Thus, a series of topics are covered, and at the conclusion the whole journey is reviewed again, and the mind insensibly drifts from this to the higher mental acts of comparison and formulation.

(3) *Varieties in the Mode of Presentation.*—Knowledge, as we have seen, comes to the mind by many routes, and the teacher may select from a great variety. The traditional methods of the pulpit, the lecture-room, the text-book, give the impression that the pupils are all receiving identical knowledge in identical forms. We are aware that that is not really the case, but the external appearance of the process tends to impose upon the teacher, and to lead him to ignore the pupil's activity, and to exalt his own importance, as an expounder, a "giver" of knowledge. His speech sounds, indeed, alike to all: but all will not apperceive his information in the same way. For every act of apperception is subjective, even if the teacher is willing to do everything *for* his pupil. Hence the value of those branches of study called "experimental," in which the pupil is set to discover the new truth for himself. These modes of Presentation have hitherto been confined almost wholly to the Natural Sciences, but the History Lesson given in the previous chapters will show that even young pupils may follow to some extent the

same plan in thinking about the story of past times.[1] Hence, we have two sharply contrasted modes of Presentation by *narration*, whether written or spoken, or by *experiment*. A third may be described as a process of *development*.[2] The teacher here leads the pupil to think out the situation for himself, and by skilful question and answer enables him to travel on the road to new knowledge without the aid either of experiment or of narration. A good Presentation will often employ all these modes, or combinations of them in turn. Clearly, the teacher's plan all through will be to supply new facts, names, technical terms, data, etc., and to leave the pupil all possible freedom and initiative in the intellectual processes.

(4) *The Presentation in Relation to the Arts.*—One cardinal difficulty in teaching is that the pupil is doing so many things at once. He is, in this type of lessons, primarily engaged in acquiring new knowledge, but the instruments he employs are arts of speech, or of drawing, or manual arts such as serve him in the Laboratory. Further, he is, or should be, engaged in a pursuit which affords him pleasure, and which therefore cultivates the æsthetic side of his nature.

The raw teacher commonly resents the intrusion of these considerations: if he teaches History, he wants to be allowed to teach History, and not to be interrupted by thinking about style of writing, or neatness. If he teaches Science, he is indifferent as to the drawing of apparatus, or the modes of oral and written expression, or the skill with which material is handled.[1] But the experienced practitioner knows that this raw haste is twin-sister to delay: new knowledge needs to catch on to the mind from many sides. Feelings of pleasure, even if sometimes expressed in a chorus of laughter, should not be repressed—a hearty laugh is often the necessary accompaniment of lively apperception. If a narrative is not told or read with expression by the teacher, and is not afterwards retold (also with expression) by his pupils, a double calamity has happened: they have been deprived of a great aid to apperception—*i.e.*, it will be harder for them to "learn" the story—and they have had a bad lesson in the art of speech. If the teacher despises this last, he cannot afford to despise the first.

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[1] Compare the work of the late Mary Sheldon Barnes and Earl Barnes, in *Studies in General History*, *Studies in American History*, etc. (Boston: Heath and Co.).

[2] Herbart's phrase is "*Entwickelnder Unterricht*"; Rein's "*Darstellender Unterricht.*"

Here, then, as elsewhere, the whole business of the school takes a corporate aspect: if one member suffers, all the members suffer with it. When we propose to treat a part of our Presentation by the aid of a picture (let us say of a knight fighting in the Battle of Lewes) which we ask our pupils to copy, we are helping the teacher of Drawing; but we are not thereby wasting the time devoted to History. We are simply employing, for a change, a mode of Presentation which is excellently adapted to the mind of a young pupil.

For it must be borne in mind that many pupils, especially before adolescence, depend largely upon feelings in order to apperceive new knowledge. They are, in this respect, like uneducated adults, and must be treated according to their nature. It is for this reason that the philosopher or the scholar, accustomed solely to intellectual habits, fails so often as a teacher. These elements of feeling—surprise, joy, fear, envy, hope, and what not—which to the scholar are simply irritants, to the immature pupil are necessary ingredients of the soil in which an intellectual crop is being nurtured.

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[1] But the control of Science teaching in recent years by Inspectors in sympathy with sound instruction in their subject is doing much to put away this reproach.

(5) *Hindrances to good Presentation.*—The difficulty created by large classes is as obvious here as it is in the Preparation, but it affects the result differently: the teacher is compelled to fall back upon faulty modes of reception; he is compelled to lecture, or demonstrate, or "talk" to the whole class, or to set them to read books, instead of being able to set them to investigate, or experiment, or develop the matter by their own activity. This was curiously illustrated in recent regulations of *The Board of Education for Secondary Schools of Science.* When the teacher is only "theorising," he may have a class of forty pupils at a time, but when *they are at work* (in the Laboratory), twenty-five is the limit.[1] The Board does not recognise the need for teaching by the mode of development: it apparently knows of no other modes of Presentation other than being talked to in a class-room and doing work in a laboratory. One wonders why the limit of forty is imposed for the class-room!

The commonest difficulty is created by the refusal of teachers to recognise the true nature of knowledge—as taking its rise in the senses. Every branch of knowledge (expressed in whatever form of words) rests ultimately on simple ideas, relating either to human experience or to observation. The teacher is liable to ignore this basis, and to rest content with words—words which he himself "gives" in the first instance, and "gets" again.

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[1] These Regulations have been obsolete since 1904, but the illustration is worth retaining, for the principle which they upheld is still too commonly advocated.

This is an exchange of tokens—tokens which may not represent real apperception at all. Hence, the quality of good Presentation will be tested by contrast between the simplicity, the individuality, the concreteness of the second step and the resulting universality of the third step. The teacher's skill is shown more than all by his ability to keep the pupil's attention on the individual objects one at a time, preventing him (especially in the Humanities) from talking about these in vague language-symbols.

§ 4. *The Third Step: Abstraction.*—"With the oral and written representation for the thing learned, the process of assimilation, as it appears, is finished, and we could consequently close our investigation concerning special, methodical arrangements for the purpose of cordial union of the subject and object of apperception. But instruction generally carries the treatment of the new material a step further: a mere appropriation of the lesson does not suffice. The instruction seeks, where it is possible, to place the pupil in possession of things that are universally accepted, of general laws and truths contained in the material just treated. The pupil should, on the basis of the individual notions now obtained, and of his own concrete experiences, be able to rise to a comprehension of ideas as they are formally set out in text-books. Then these ideas and laws lend to the mind of the pupil the first true solidity and assurance; they complete the appropriation of the unknown. Here, therefore, we have to do with a process of abstraction; appropriating and changing the results of apperception into choicer, finer products, which distinguish the primary ideas from the secondary."[1]

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[1] From translation of Lange's *Apperception*, pp. 219, 220 (Heath and Co.).

Before discussing the features of this Third Step, let it be borne in mind that the pupil's activity will often anticipate the teacher's plan. A bright young mind will have already begun to compare, to associate, formulate, while the rest of the class remain absorbed, as the teacher desires they should be, in the details of the Presentation. But it does not follow that the conclusions made by such a forward pupil will be correct, and, even if they are, it will do him no harm to be required to state them in formal fashion, along with the rest of the class whose minds work more slowly toward the goal.

(1) *Limitations to the use of the Third Step.*—It will be observed in the passage from Lange, quoted above, that he only advocates a formal effort at Abstraction "where it is possible." And elsewhere in his book he shows that with young children, whose powers of expression in language are only in course of development *pari passu* with their powers of abstract thinking, formal abstraction should not be attempted.

"Generalisation must not be premature; it must always come out as ripe fruit from a fullness of similar concrete experiences. . . . The pupil in the lower grades must accordingly be spared the effort of abstraction." Let it be noted that this sparing of the pupil's effort is concerned only with the formal plans of lessons. The pupil's personality is not to be repressed: his mind is always striving, under healthy conditions, towards "choicer, finer mental products," but he is not yet old enough to be deliberately forced towards abstract thinking. We must be content to omit this Step, as a separate part in our scheme of study with younger children.

Again, it is evident that the fruits of apperception can be abstracted in greater variety towards the *end* of a course of study, rather than at the beginning. A colonist does not at once find himself able to generalise as to his new environment: he will do well to spend months in semi-conscious processes of observation and comparison before he sends to the old folks at home his conclusions. So with the pupil: the Third Step may be very meagre and brief in the earlier Sections: later on it will expand and rise to higher forms and varieties of abstract thinking.

Once more, the branches of knowledge differ greatly as to the facilities they afford for abstraction. In some, such as Mathematics or Natural Science, the pupil is encouraged at once to compare and express his conclusions in the shape of universal propositions, definitions, formulæ, etc. Until these are achieved, the instruction cannot be regarded as scientifically successful.

But in the Humanities the case is otherwise. There are, indeed, a great variety of general reflections—the abstractions of ethics and politics—which, logically, may be abstracted from the study of a period of History, or from a narrative poem, but most of these lie beyond the pupil, and even if they are within his comprehension, it is an open question as to the extent to which they should be formally discussed. The view adopted by the present writer is indicated in the sketch of lessons on Simon de Montfort. A teacher of the Humanities, who holds his class well in hand, and understands their minds, may quite successfully achieve a Formulation which will greatly aid mental progress, and which will be felt, both by teacher and taught, as the crown of the whole study. But this achievement belongs quite to the finest art of instruction: teachers may often be content if, with the Humanities, they have succeeded in the first two

Steps: the third may be partly left to the slower growth of time, partly may be offered to the class by the teacher himself, if he feels that the pupils will be helped thereby.

If teachers of History, of the Bible, of Literature, resent this limitation of their efforts in contrast to what is possible in Mathematics or Science, they may take comfort in the belief that their harvest is reserved for the future. Definitions of oxygen, of a plane rectilineal figure, propositions about parallels or the effects of heat, can be grasped at an early stage: the greater, vaster truths may wait: they can only find fit expression when the mind has grown to the full stature of a man.

We must, however, not be misunderstood. In refusing to insist upon the expression of general moral truths by children, we are not declaring them to be beyond the reach of moral *impression*. On the contrary, the direct aim of Humanistic teaching (as we have insisted, possibly with wearisome iteration, in earlier chapters) is ethical: we intend not only that our pupils shall receive deep impressions, but that these shall bear fruit, here and now, in behaviour, as well as hereafter. For this purpose, however, it is not necessary to force a precocious habit of reflection, to achieve formulas which can be little more than empty sound. Right conduct springs from impulse, from imitation, admiration, as readily as from reasoned reflection. Hence, in the next paragraph, the reader will find provision for the Fourth Step in Humanistic as well as in Science Teaching, although the Third Step is treated as of minor importance.

(2) *Content of the Third Step.*—Abstraction involves comparison out of a number of particulars. The teacher's art consists, firstly, in selecting and group-

ing these particulars side by side, some out of the Presentation just concluded, others out of earlier Sections, others, again, out of the pupils' own experience apart from lessons. Similar ideas are compared, dissimilar ideas contrasted, and thus the higher abstract form of thought rises clearly to the threshold of consciousness. The process should not be wearisome or painful to the pupil, unless he has already been wearied by too much study. Intellection is as natural and enjoyable to the mind as muscular exercise to the body. True, the effort will be painful and even repugnant if the Presentation has not been clear—bricks cannot be made without straw. Many teachers will admit the tedium of teaching "Euclid" when the pupil has been compelled to follow a chain of reasoning before he has gained a clear notion of the links which bind the chain together. The remedy is simple: a faulty Presentation must be revised before good Abstraction is required.

As a sequel to the comparison comes the formal[1] expression, in appropriate language, of the new truth. The pupils themselves should be able to undertake this act, but their language will often be faulty, since it is the function of language to find new terms to express new ideas. In the lesson on Boyle's Law added in the Appendix, the class can suggest everything, except the final act of giving a name to the instrument whose use they have discovered.

In the Humanities the new truth can often be expressed in a proverb (see p. 292, above), a verse of poetry, or the like. The Presentation, let us suppose, has been concerned with the story of the Good Samaritan: what better aphorism can the class learn as a conclusion than the Beatitude spoken by Him who told that story—"Blessed are the merciful, for they shall obtain mercy"?

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[1] The Herbartians usually arrange two Steps out of Abstraction, making five in all: III. *Stufe, Vergleichung* (Comparison), IV. *Stufe, Zusammenfassung, oder System* (Formulation). But it seems advantageous to put III and IV together, since the one cannot be formally introduced into a Section apart from the other.

This distinction between the Humanities and the Sciences can be well illustrated by the language in which the Formulation is expressed. The value of a definition, axiom, proposition, lies in the accuracy of its language. Teaching suffers terribly if pupils are not trained to a consistent use of terms in all the sciences which they study. In Grammar, in Algebra, in Geometry, half the battle is won when the pupil has clearly impressed on his mind not only a clear conception, but a form of words embodying that conception in exact language. This language needs to be consistently employed by all teachers and pupils without variation throughout all the classes of a school. In the Humanities, however, the teacher is not concerned with a formal definition or proposition. He seeks for some choice literary passage—if possible, from material already at hand in his pupil's library. Such a passage, elevated in tone and style, leads the pupil beyond himself, and assists him towards higher realms of thought in a way that would be impossible if the teacher tried to chop logic with his pupils.

In the lesson on Simon de Montfort, we have suggested an extension of this Third Step, in a case where the teacher might be disposed to make a review of the work done in several previous Sections, summarising the whole from one special standpoint: The Making of the English Nation. Such a review or summary is not in itself a Formulation, but, when associated with some general thought gathered from an extended survey, it may very well be introduced into this Step. Such a summary differs from the review of the different parts of a Presentation which we have indicated as a necessary item before the close of the Second Step: it takes a wider range, and serves, perhaps, at the end of a term or of a School Year, to group together an entire course of study.

The followers of Rein and Ziller, however, often add to the Formulation a catalogue—list of numbers or dates—and regard this as a substitute for the Abstraction. We cannot accept this as an adequate treatment of *Die Formalen Stufen.* It is quite necessary to summarise in catalogue form the results of Presentation, but there is no reason why such a summary should be confused with the legitimate purpose of Abstraction.

§ 5. *The Fourth* (*and Final*) *Step : Application.*—Knowledge is *not* power, unless it is put to use. It need not, however, be used for "practical" purposes in any immediate way. Mr. Squeers went too far when he set his pupil to clean the windows, immediately after the lad had learned to spell "winder": nevertheless, some immediate application of the new knowledge there must be, unless the mind is to be stored with lumber. The contrast between the current teaching of Arithmetic and of Geometry is here very striking. Nine-tenths of the pupil's time in Arithmetic is devoted to Application: because, originally, Arithmetic was introduced into schools as one of the practical arts of life. In Geometry nearly the whole time is spent on the learning of propositions: because the origin of Geometry is to be traced to the "scholastic" influence of Mediæval Universities. The whole realm of Mathematics has meanwhile undergone transformation, being brought into intimate relation with the Physical Sciences; but the schools still continue in the main to adhere to ancient ruts.

Application, then, is the final step in a Section of knowledge: the pupil "applies" the knowledge he has gained. His mind has risen to the conception of some new general truth. He will not rest there, but will find delight in using this new doctrine. We can discriminate the directions in which his activity will be exercised.

(1) Obviously the Application of one Section is to be found in the Preparation of the next. You have learnt the properties of parallel lines: very good, you may look forward to the application of this knowledge in your study of figures bounded by pairs of parallel lines.

(2) Or, you may apply your knowledge to "Riders," *i.e.*, to miscellaneous problems suggested by the fancy of teachers or pupils.

(3) Or, you may apply your knowledge to natural phenomena: the Parallelogram of Forces perhaps. In all this work you are once more revising or reviewing the ground covered in the Section, but this review is not mechanical repetition, for it is associated with a novel situation. You have returned from the "General," the abstract, to the "Particular," the concrete: the novelty of the situation lies in the suggestion of a new concrete topic.

Thus Application recalls some features of Preparation. We saw that the First Step is often commenced by a question arising out of some correlated study: so with the last Step. It answers problems arising out of correlated studies. The Preparation is commonly a sequel to the previous Section: the Application often suggests the aim for the succeeding Section.

(4) And just as the motive idea in the Preparation may be gathered from some familiar out-of-school experience, so the Application will not have fulfilled its purpose completely unless it be adapted (wherever possible) to the practical needs of daily life. The boy who has spent some hours on hero-worship of Simon de Montfort, ought to be the better for it. It ought to be harder for him to be cowardly, easier to be righteous. He ought to love his country the better because Simon died in the people's cause. He need not *say* that he will do these things; nor need his teacher point the moral, but the application, based on implicit formulæ of conduct, as well as on sympathy, should not fail to hit its mark.

Here, again, let us not be misunderstood. Some teachers find themselves entirely out of sympathy with the deeper human elements in story and song, because they themselves are leading dreary lives, and have not sought to enlarge their experiences by the study of imaginative literature. Such a man "cannot see the use" of teaching the Humanities, and he may be inclined to regard himself as absolved from considering this Fourth Step because we do not require him to "point the moral." But if he has no sympathy, no true apperception of the story, he will fail, not only in the last Step, but in the First and Second! Pupils can do much without the intervention of the teacher, but they cannot learn the Humanities except from a teacher possessed of genuine human sympathies. They cannot learn truly; nor can they apply the lessons so mislearned.

(5) Finally, this Fourth Step, Application, brings us close to the topic of the following chapter, for Application is self-activity. Knowledge is to be used, not only in the acquirement of further knowledge, but in action. We may decline to discuss the problem of speculative philosophy as to whether knowledge or action constitutes "our being's end and aim": we are content to notice that the two are intimately associated in the progress of mankind, and

therefore in teaching: knowledge is only made perfect when its value is appreciated in the practice of the arts: they, in turn, can only be made "fine" when they are conducted with intelligence.

There are, indeed, some pupils who can only be properly tested as to their success in gaining knowledge, by witnessing their achievement in work. They have a poor gift of expression: they cannot write or speak glibly: they cannot answer good examination papers. But when it comes to active exercise, then it often appears that they *have* apperceived and thought: such pupils are made little of by teachers who judge only by the standard of "words," but they must not be written down as failures, until they have been tested by experience.

Note on technical terms for the Steps in Method.—Most of the books on Method written in recent years reveal their obligations to the Herbartian pedagogy, even where they make no direct reference to it. Hence the technical terms used in the above paragraphs—Preparation, Presentation, Abstraction, etc.,—are coming to be more familiar every year to teachers in Great Britain. But *as* technical terms, they are not quite satisfactory—at least to the present writer. Thus, Preparation[1] is easily confused with the teacher's "Preparation"[2] of his Lesson Notes. It has, therefore, been suggested to use "Introduction" as the name for Step I.; in this volume *Construction* of Lesson Notes is spoken of, in order to avoid confusion in any reader's mind with Step I.

"Presentation"[3] is also an unsatisfactory term. It suggests to the English reader that the teacher has to "present" or give instruction—quite contrary to the intention of the theory, which regards the teacher as standing aside wherever possible, letting the new material "present" itself. Hence "Reception" has been proposed as an alternative title, but this is not wholly suitable either.

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[1] *Vorbereitung.*

[2] *Präparationen* (cp. p. 339, title of pamphlet published at Marburg.

[3] *Darbietung.*

CHAPTER XIV

SECOND TYPE OF LESSONS—THE ACQUIREMENT OF SKILL

Now a great deal of early education is concerned with the imparting of skill. And I think that it is no exaggeration to say that, so far as this is concerned, an ounce of demonstration is worth many pounds of description. We build here upon the natural faculty of imitation. We must show the child how a skilled action is to be performed, and get him to imitate what we do.—*Psychology for Teachers*, pp. 67, 68, by Prof. Lloyd Morgan (First Edition, 1895, Edward Arnold).

Could the young but realise how soon they will become mere walking bundles of habits, they would give more heed to their conduct while in the plastic state.—William James, *Talks to Teachers*, p. 77. (Longmans).

Die Fähigkeit des Lesens ist bei uns viel verbreiteter wie in England und Frankreich; die Fähigkeit des praktischen Urteils über das Gelesene vielleicht minder verbreitet als in den beiden Ländern.—From a speech by Bismarck in the Reichstag, 1878 (quoted by Rein, *Das Erste Schuljahr*, p. 19).

§ 1.—IN the last two chapters we were engaged upon topics which were comparatively easy to handle, not only because they were based upon well-worn ground in psychology, but because the followers of Herbart in Germany have here achieved results which cannot be assailed except on minor points.

But now we approach a field where (cf. Chap. XII, § 3) little guidance can be expected from professional teachers. The branches of study now to be handled are not all of them modern, but they have not yet been subjected to the careful psychological treatment which has been accorded to other branches of Instruction. Indeed, the chief error of the strict Herbartians seems to lie in their attempt to regard the Arts as subservient to the same laws of method which apply to branches of knowledge. Music, Drawing, Reading, are all brought by Ziller and Rein under the scheme of the Five Steps.

At this point we must break away from them. Knowledge is one thing: skill another. Just as in Chapter XII we commenced by inquiring into the nature of knowledge, so now we must seek for our Method for Lessons in Arts, by asking, What is skill in an Art? There we inquired of a neighbour, Do you know Eastbourne? Now we must ask, Can you paint a picture of Eastbourne? Can you play a sonata? Can you speak French? Our search must be for the psychological processes involved in the performance of these acts, as a basis for our Method in acquiring or in teaching pupils to acquire them. These phenomena will lead us to "laws of Performance" in the Arts, and on these we shall venture to suggest "steps" in Method, illustrated, as before, by examples of Lesson Notes, treating this second "type" of Teaching as we have just treated the first type.

§ 2.—In considering the acquirement of arts as taught in school, we are able to set on one side all the powers and habits of the child acquired involuntarily or gained by instinct apart from teaching. These powers are full of interest to the psychologist, and the observation of their growth is helpful to the teacher in his study of Child-Nature, but they lie outside the scope of our present inquiry. Our child at school age commences, under direction, to deliberately acquire some new power—

to play the piano, or to make cardboard models, or to read the symbols of his native language. What are the mental processes common to all these pursuits?

A little reflection makes it clear that the entire pursuit, in its early stages, centres round *Imitation.* The child is shown how a thing is done —and then does it.

But he does very slowly, and perhaps very incorrectly, what the teacher does easily and exactly. Whereupon the action is repeated, and again repeated. Finally, the action becomes familiar: a new nerve-path is worn, if we choose to adopt the language of physiology:[1] further actions, more complicated, are attempted, and finally the simple acts with which the art was commenced become reflex actions: they are described as habitual: constant practice has created a new *habit.* Arts which end in the acquirement of a useful serviceable habit are called *mechanical,* for their value to the user depends upon the ease with which he can perform the necessary reflex actions without fatigue. The art of handwriting is mainly mechanical, although it is often maintained that even this art should offer scope for individual expression of style and taste. But the substitution of the typewriter for the pen will diminish the margin of personal initiative, even here.

All the higher Arts, *i.e.* the fine Arts, involve another mental element. The personality, the *Ego,* which is suppressed in the mechanical process, strives always to emerge. Habit is a good servant, but a bad master: machinery is death to the higher life. He who has only learnt to imitate is just living over again the life of the man whom he copies. Hence, the terms variation, independence, self-volition, differentiation must be employed to indicate the final issue of all Performance which rises above the mere machinery of reflex processes.

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[1] Sully's *Handbook of Psychology* (later editions), p. 525. But Professor Sully seems to confine the scope of Imitation to the earliest years of childhood, whereas it surely plays its part all through active life. It is unfortunate that so much of the more recent research in Psychology has been limited to the years *preceding* school.

This preliminary outline has touched only the volitional aspect of Performance; but we cannot in practice separate the will from cognition. He who imitates must employ his senses in observation. Only, let it be carefully noted, the end of observation in this case is not perception, but merely *contemplation*. The child sees me touch a note on the piano, and he hears a sound: if his senses of sight and sound are accurate, he can do the same. It is true that during this performance, he may also be engaged in apperception, but my purpose as his teacher is for the time being achieved, if I have enabled him, after contemplating my act, to imitate. Thus, while in Instruction we proceed from sense-observation to perception and conception, in Performance we proceed from sense-observation, or (to use a more convenient term) from *contemplation*, to active imitation.[1]

Cognition soon plays a further part in the attainment of skill. For the intellect will not be shut out: it insists upon proceeding rapidly from percept to concept: the repetition of a process, contemplated in the acts both of teacher and of pupil, leads the latter to compare and to abstract: he discovers *rules* of art. He finds that certain processes are regular, that others are irregular: the former may be more rapidly acquired if the common rule which governs them is detected: the latter are contrasted, and the effort of contrast enables them also to be more readily remembered. Thus, almost from the first lesson in a new art, the intelligence comes to the aid of the will: and the intelligent child, who likes to *think*, gains already an advantage over the so-called "stupid" child, who may possess fine artistic sensibilities, but does not care to reflect upon his actions.

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[1] We replace *Von Anschauung zum Begriff* by *Von Wahrnehmung zur Nachahmung oder Thätigkeit.*

A wide scope is once more given to Performance when the art is treated not only as a mere mechanical exercise of motor powers, but as a human pursuit, associated with human interests and sympathies. Our young children are about to make a little cardboard tray, a simple object, concerned only with cardboard, scissors, and paste. Yes, but we are getting it ready for Christmas: it is to appear on the table at home on Christmas morning along with all the other gifts of that happy time, as a real surprise for mother! Here is a situation which brings into play, not only the imagination, but the deepest springs of feeling. The card tray is not only a model, one of a series designed by some clever teacher in order to develop the pupil's skill step by step: it is to be a work of art, in the truest sense: something produced with the intention of giving help and service at home. Or we are learning to sing, and before we commence the *technique* of our new piece of music, we are reminded that the cricket season is coming, and that we must get our song learnt, so that we may sing about *Willow the King*[1] as well as learn to handle the bat.

Many children can learn, with some pleasure at least to themselves, to strum the bars of Schumann's *Merry Peasant* on the piano, but the performer only learns to play such a composition with real artistic feeling when he appreciates the simplicity and freedom of country life. Inspired with such thoughts and feelings, he interprets in his own way the notes of the printed page: his work is no longer a mere imitative exercise: imitation is transformed into a "choicer, finer product"; more original and independent because it has interfused with the performer's personal experience.

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[1] *Gaudeamus*, see p. 358, below.

§ 3.—An example from school practice will serve to show how these considerations may help to formulate steps in Method adapted to the pursuit of arts.

We will take a series of lessons in Elementary Modern Language Teaching. This work will, of course, be distributed into Sections, and we shall follow also the other canons of Method laid down in Chapter XII, § 2, since those were seen to be of universal application, and were not limited solely to the acquirement of ideas.

The Notes of Lessons which follow are recast from a pamphlet published in Germany under the title *Preparations for Instruction in English on a Direct Method*,[1] and then turned about as lessons in German to English pupils.[2] In this form the lessons were repeatedly given under different circumstances, and the principles underlying the work need no longer be regarded as experimental.

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[1] Marburg, *Die Elwert'sche Buchhandlung*, 1892.

[2] "An Experiment in Modern Language Teaching" (Twentyman, Findlay, and Kirkman, *Journal of Education*, October, 1896, to April, 1897). The present writer ought not to omit his indebtedness to his friend and colleague at Jena, Herr Rektor Scholz, whose marvellous didactic skill was witnessed in successive years in the elementary class of English students during the first years of the *Ferien Kurse* held at Jena.

First Lessons in German.[1]

SECTION I

The purpose of this Section is introductory. It affords to the pupils knowledge and skill in the use of a number of "lesson-words and terms" which enable teacher and pupils to communicate wholly in German during the course of later study. This aim determines largely the selection of Material, and nothing should be introduced unless it is actually needed. At the same time, the class are introduced at once to Germany and its people. The intellectual "Content" is selected with as much care as the technical "Form."

I. Step.—(Conducted wholly in English.)

a. Reasons why the class should learn a foreign language at all. Why German rather than Turkish or Singalese? (The time spent on this topic will depend largely upon the age of the pupils, and the course of the discussion will vary greatly according to their previous experience, and according to the actual "aims" of teacher and class in undertaking the pursuit. The theory of this book presupposes some clear purpose, understood by all, before the task is commenced.)

b. In learning German, then, we are going to try and think as Germans think, using their words and sentences: we shall gradually find ourselves able to put away English altogether, and to carry on our lessons just as boys and girls do in German-speaking countries. At first it will be difficult to keep out English, and, for some of you who talk French or Spanish, it may be difficult to keep out those languages, but practice will make it easier for you every day.

c. We are helped in studying German by the circumstance that the German folk were, in days of old, one people with the Anglo-Saxon stock, so that, although the English language is now wholly distinct from German, there are many words which sound nearly alike in the two languages. These are the words, therefore, which we shall use first, and you will scarcely need to translate them, for you will at once be able to guess my meaning as I utter them. And you will be readily able to imitate my voice and use these words yourselves. (The above is the substance of instruction which is here compressed into lecture form, but which in actual practice would be "developed" from the class.)

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[1] Compare Von Glehn's chapter in *The New Teaching* (Hodder and Stoughton, 1918) and Stockton on "The Direct Method" in *The Fielden Demonstration School Record*, as above, p. 170.

II. Step.—Apparatus: an outline Map of Europe (made in Germany), with German names; a picture of the German Emperor.

a. (Pointing to Deutschland) *Das ist Deutschland. Was ist das? Das ist Deutschland.* (If the class have been carefully forewarned in the I. Step that Germans use names in Geography different from those used by us, they will quickly grasp the novelty of this statement. The question and answer must be repeated several times, a portion or the whole of the class sometimes speaking together; mispronunciation to be detected and corrected on the spot. *Land* will be the special difficulty, for the English habit of pronouncing this term will constantly recur.) (Pointing to England) *Das ist England.* Question and answer again: special attention once more to the second syllable.

b. The words "Deutschland," "England," are now written on the face of the map over the countries: a pupil or two come up, and make the sentences again.

(Here, at once, reading is added to hearing and speaking. Why, indeed, should reading be delayed, IF once the pupils have anticipated the special danger incurred when reading comes before hearing? The pupil who reads *Deutschland* on a map before he has been drilled in correct pronunciation will assuredly start a habit of pronouncing it "Dutchland," but if this danger be anticipated,[1] the sooner he starts to read the better, since he is a being accustomed to letters, and ready to make progress through the medium of the written as well as the spoken word.)

c. (Pointing to Deutschland) *Ist das England?* **Nein**![2] *Das ist Deutschland.* And *vice versâ*. *Ist das Deutschland?* **Ja**, *das ist Deutschland; das ist* **nicht** *England.* Practice as before. Then, on the blackboard: *Adverbien—*
Ja, nein, nicht.

(A full discussion of the *Special* Method involved in this work cannot find place in this volume. The teacher accustomed to older methods will say, "Why not tell the class straight out that *Nein* = No, and *Ja*=Yes?" The reply can best be found by practical study of the laws of Performance, and by attaching value to the establishment of the new language habit. The attempt at once to systematise this new item of knowledge, by classifying the three new words as *Adverbien*, will be regarded by many teachers as premature. If, however, the class are accustomed to think in terms of grammar, they will respond to this treatment, for it will merely bring to the threshold of consciousness what, in any case, they would subconsciously do for themselves. But in many classes, no doubt, it might be well to wait a little before introducing the terms of German Grammar.)

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[1] The danger, however, is serious, and every teacher must form his own conclusions as to the proper moment when the visual impressions of a symbol can be safely introduced.

[2] Each new word as it is added to the stock is printed here in thicker type.

d. (Producing the picture) *Das ist* der Prinz *Der Kaiser ist* in *Deutschland.*[1] Wo *ist der Kaiser?* And *wo?* is added to the list of *Adverbien.*

Thereupon a scheme for a tense is written:—

Singular.

1. . . . . .
2. . . . . .
3. . . . . .

First *Der Kaiser* ist is written after 3; then the teacher points to himself, Ich bin *in England*, and writes *Ich bin* on the blackboard after 1.

e. Now the second person is introduced. *Der Kaiser ist* ein Deutscher. *Ich bin ein* Engländer. *Was* sind Sie? *Sie sind ein* Engländer. *Was ist der Kaiser?* Er *ist, u.s.w.*, and our little tense is completed. If the class is young, we of course substitute Du for Sie.

It is not to be supposed that the above can be got through without translation here and there. But both teacher and class are united in the effort to communicate directly in the foreign terms, and the native equivalents are kept below the threshold of consciousness more and more. And since so many of the terms are "identic,"[1] this is not so difficult as in the corresponding lesson in French.

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[1] A smart pupil may of course protest, *Nein! der Kaiser ist nicht in Deutschland*, for the odds are that he will be in the Isle of Wight, or in China!

III. Step.—The new Material has now been "presented," first orally, and then, after full practice, in writing.

The intellectual needs of the class can now be further attended to. A complete review and summary of the words learned can be written upon the blackboard, and perhaps copied on a piece of paper.

TABLE I.
(*Das Verbum.*)
Ich bin
Sie sind
er ist

TABLE II.
(*Der Artikel.*)
Ein
Der

TABLE III.
(*Fürwörter.*)
Was?
ich, Sie, er
Das

TABLE IV.
(*Adverbien.*)
Ja, Nein
Nicht
Wo?

TABLE V.
(*Hauptwörter.*)
Deutschland
England
der Kaiser
ein Engländer
ein Deutscher

It is certainly open to question whether the Grammatical terminology should here intrude. But if it do not, the teacher and class may both be tempted to employ the English terminology—and that is also out of place.

In making this summary there is no need for much speaking. One of the indirect advantages to a teacher who schools himself to train a class in the arts is that he learns to hold his own tongue!

IV. Step.—*a*. The pupil has now some twenty foreign symbols whose use he has acquired in direct relation to "content": they are his own, and each means something.

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[1] By identic terms are meant words which have a common etymological origin, and mean almost the same in the two languages, being also very often spelt and pronounced alike or nearly alike. No terms are absolutely identic in two languages.

Let him, then, use them. He has already done so, but in a very restricted way, imitating consciously and exactly the forms used by the teacher. Let him now attempt his own combinations, in a language which contains only twenty symbols. Here at once the pupil stumbles across the first great difficulty of foreign speech: he *cannot* go beyond the narrowest tether! If he points to Italy and says, *Was ist das?* his comrade cannot answer. No doubt some bold spirit will reply, *Das ist* Italy![1] but he will soon be pulled up.

Nevertheless, this Fourth Step is quite distinct in that it encourages freedom of practice, within the limits that are possible. The work is in appearance only revision of the Second Step, but in reality it is much more: the questions are now chosen at will by the pupils from the range of the twenty symbols which they possess.

b. Or, finally, a dictation may be given by the teacher.

SECTION II

I. Step.—We are now quite at home in our new occupation. As soon as the class meet again (there ought not to be a greater interval than twenty-four hours at the most),[2] the questions and answers are rapidly repeated, care being again taken to watch the dangerous points in pronunciation.

Then English is resumed for a few moments.

Since we are to talk and think in German as rapidly as possible, we need a few current terms such as we constantly use in all school lessons. Give me some examples (Exercise-book, page, writing, reading, numbers.) Very good. Our business, then, in the next few lessons, will be to learn how to talk in German, like German boys do, about our lessons.

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[1] It happens that this answer is more correct than the German *Italien!* And it is also correct as "Performance." For the foreigner is obliged to use the symbols of his native tongue, when he is "gravelled for lack of" the foreign symbol. It is only by boldness of this kind that he can attain fluency. And it is solely by this boldness that alien words get introduced into languages.

[2] It would be a most valuable experiment to compare the result of a series of lessons to beginners in which twenty minutes were taken in the morning and twenty in the afternoon daily, with the same series taking forty minutes at one time in the mornings only.

Here is the Aim for this Section, and it can be easily appreciated and given back by the class. Before long we shall hope to have advanced far enough to express the Aim of a Section in German.

II. Step.—(*a*) (in English) You will often be in a difficulty to understand some word that I use; if so, I can give a phrase which you may use, so as to get an explanation from me. I will dictate the phrase, and tell you what it means word by word: **Bitte** (please), **was heisst auf Englisch?** (What is the English word for?) Thus: *Bitte, was heisst "Kaiser" auf Englisch?* "*Kaiser*" *auf Englisch heisst* "Emperor." "He" *heisst auf Deutsch* "*er.*"

This is practised by the class with the words used yesterday. It serves the slower pupils a means of getting an explanation without using the vernacular.

b. (In English) I will now help you to learn words connected with reading and writing: you must try to understand me without wanting me to translate.

(In German) **Hier** *ist* **der Mund**: *hier ist* **die Hand**; **und** *hier ist* **das Auge,** *hier* **sind die Augen.** *Was ist das? Was sind die? u.s.w.*

The new words are at once added to the list summarised in the previous lesson: we have now a Plural form of the verb: three forms of the definite article, and three more nouns.

c. **Mit** *dem Mund* **spreche** *ich.*
Mit der Hand **schreibe** *ich.*
Mit den Augen **lese** *ich.*
Was **machen** *Sie mit der Hand?* "*Machen*" *heisst auf Englisch* "do."

All treated by gesture, question and answer: the inversion of the pronoun is learned through unconscious imitation alone: the teacher does not call attention to it, and the new habit can be learnt before the pupils have realised that they have broken with the native mode of asking a question.

III. Step.—The summary is again added to. We have now a table of the present tense:—

1. *Ich spreche, Ich lese, u.s.w.*
2. *Sie sprechen.*
3. *Der Kaiser spricht.*

IV. Step.—There is now a greater variety of symbols for free practice (and hence more opportunity for careless error, especially if the Performance has proceeded too rapidly). The class will get some fun out of the bungler who asserts, *Mit dem Mund schreibe ich!*

In this Fourth Step most of the question and answer can be done by the class: the teacher's function is to correct mispronunciation (*i.e.* to pronounce rightly what was spoken wrongly, and so seek to force the error below the threshold of consciousness),[1] and to help the conversation where it falters or tries to run into paths lying outside the little circle of German speech possessed so far by the class.

SECTION III

(It will now be only necessary to give the subject-matter of each Section in outline. The Steps are fairly like one another in each Section, but it may be of advantage to show how the Sections proceed up to the point where a piece of continuous reading can be put into the hands of the class.)

The Exercise-books must be paged and numbered, since the entry of new words in their proper places will form a permanent exercise in all succeeding lessons. Hence the numerals must be learned, and this immediate Aim is given to the class, first in English, and then in German.

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[1] How common a mistake it is for teachers to dwell upon errors, and thus to force them upon the pupils' attention, magnifying the mischief they profess to minimise (see Chap. XVI, p. 395, below).

Wir **werden** *die* **Zahlen lernen.** (Henceforth the phrase *Wir werden . . lernen, oder Wir werden . . finden, u.s.w.*, forms the stock introduction to the business of the day, or to a new Section.)

Das ist **ein Finger.** *Das sind* **zwei Finger.** *Ich* **habe** *einen Mund und zwei Hände. Wie viele Augen* **haben** *Sie?*

1. *Ich habe.*
2. *Sie haben.*
3. *Er hat.*

Das ist ein Heft. Wie viele **Hefte** *sind da?* **Drei, vier, fünf.** *Das ist* **eine Seite.** *Das ist* **auch** *eine Seite ; das sind zwei* **Seiten.** *Das ist die* **erste** *Seite. Hier sind zwei Seiten ; das ist* **die zweite** *Seite.* **Zeigen** *Sie mir* **Ihre** *Augen, die erste Seite, u.s.w. Hier ist die* **letzte** *Seite.*

Now the Exercise-book is numbered (instructions being given in English) each pupil writes on the top right-hand corner of the first page, thus :—

1.	on the next page :	2.
Numero eins :		*Numero zwei :*
die erste Seite.		*die zweite Seite.*

and so on all through his book, copying from the blackboard. All the numerals are of course recited before the written symbol is displayed, otherwise *vier* will not be pronounced *fear*.

Useful practice can be made with addition : 3 *plus* 10 *machen* 13, *u.s.w.*

If full practice is now afforded (and there is great variety for it), the class will be found to be really beginning to abandon English and to think directly in German.

As the last item in this Section, the class are told : *Auf die erste Seite des Heftes, schreiben Sie,* **"Ein Heft für deutsche Grammatik."**

SECTION IV

Aim : **Jetzt** *werden wir Wörter in das Heft schreiben.*

Auf Seite 2, *auf die zweite Seite, schreiben Sie "Die Artikeln." Lesen Sie die Artikeln.*

Hier ist ein Hauptwort : Sagen Sie mir **noch** *ein Hauptwort.*

Auf die dritte Seite des Heftes schreiben Sie, "Hauptwörter," u.s.w.
Auf die sechste Seite, "Pronomina."
Auf die achte Seite, "Zahlen."
Auf die zehnte Seite, "Verba."
Auf die zwanzigste Seite, "Präpositionen."
Auf die zwei und zwanzigste Seite, "Adverbien."

The advantage of these exercises lies (1) in their giving the class some real thing to do with their speech, (2) in the repetition again and again of the same forms of speech. The familiarity of the subject-matter is not a hindrance but an advantage).

As a part of this Section a few phrases can be taught which will help the class to avoid English more and more. They are better taught as they are found to be required rather than put together into a separate Section.

Bitte, sagen Sie den Satz noch einmal.
Ich kann *Sie nicht* verstehen.
Das Gegenteil von *Nein heisst Ja.*
Das Gegenteil von Frage *heisst* Antwort.
Das Gegenteil von Singular *heisst* Plural.

All new words after they are acquired are seen on the blackboard, then copied on their proper page in the *Heft.*

SECTION V

Aim: Wir werden jetzt ein deutsches Lesestück lesen. A copy of the following is given to each pupil :—

Das erste Lesestück.

1. *Jetzt lesen wir Deutsch. Sprechen Sie Deutsch?* Jawohl! *Ich* kann dreissig *deutsche Wörter sprechen! Deutsch ist eine* Sprache ; *Französisch ist auch eine Sprache ; Englisch aber ist meine* Mutter-sprache: können *Sie auch Französisch sprechen? Ja, ich kann Französisch* ganz gut *lesen und sprechen.*

2. *Wir* lernen *viel Deutsch und* wenig *Englisch. Viele Wörter schreiben wir. Wir schreiben keine Wörter auf Englisch. Wir schreiben* alle *Wörter auf Deutsch.*

3. *Der* Stuhl steht *auf dem* Fussboden. *Wie viele Stühle sind hier? Jetzt werden wir die Stühle zählen.*

Können Sie meine Finger zählen?

4. Im Winter hat der Wolf Hunger. Ich habe *Hunger und* Durst. *Haben Sie Durst? Jawohl*, aber *ich kann nicht* trinken! Im Sommer *habe ich Durst, nicht im Winter.*

SECTION VI

(1) The class is now sufficiently far advanced to compare examples and deduce a few rules of Grammar. Thus:—

Im Winter	*hat*	*der Wolf*	*Hunger,*
Der Wolf	*hat*	*Hunger*	*im Winter,*
Hunger	*hat*	*der Wolf*	*im Winter,*

leads to the rule, "*Das Verbum steht an der zweiten Stelle*" (Krause-Nerger, *Deutsche Grammatik für Ausländer*, Seite 224). This is the first syntax rule learnt. It should be delayed till later, if it cannot be mainly taught in German.

(2) The classification of the simple verb tenses follows, for the ideas are familiar from the grammar of other languages, and the class cannot get on much further without tenses. The scheme given in Wenckebach's *Deutsches Lesebuch für Anfänger*, Seite 74, supplies an admirable introduction to the idea of time. A skeleton for five days is ruled on the blackboard and gradually filled in as follows:–

APRIL.

Vor-gestern	*Gestern*	*Heute*	*Morgen*	*Über-Morgen*
12	13	14	15	16
der 12 *April*	*der* 13*te* *April*	*der* 14*te* *April*	*der* 15*te* *April*	*der* 16*te* *April*
Montag	*Dienstag*	*Mittwoch*	*Donnerstag*	*Freitag*
u.s.w.	*Gestern* war *der* 13*te April*	*Heute* ist *der* 14*te April*	*Morgen* wird *der* 15*te April* sein	*u.s.w.*

From this beginning the class can learn (1) the days of the week; (2) *Präsens, Imperfekt, Futur, Indikativ der Hilfzeitewörter, "sein" und "haben."*

SECTION VII

Die Deklination der Artikelr.
Die Deklination der Hauptwörter.
(A preliminary classification—with prepositions.)

SECTION VIII

Now, for the first time, the class can enter on "Material" which has a direct relation to the final aim of the teaching. The Geography of Germany is chosen, as being in itself easy[1] of apperception, and, as the proper introduction of the pupil to the people whose culture he is to study. A Wall Map of Germany is required. A few lesson words, such as *Zeichnen, Zeigen, u.s.w.*, will be wanted, and the subject-matter will follow some such course as follows:—

(1) *Hier ist eine* Karte. Da *ist* der Norden: *hier ist der* Süden*: Da ist der* Osten; *da ist der* Westen. *Dieses ist* Land, *aber dieses heisst* Wasser. *An drei* Seiten grenzt *Deutschland am Land; an eine Seite—im Norden—grenzt es am Wasser. An* welche *Seite? Die* nördlichen *Grenzen Deutschlands sind die* Ostsee, Dänemark, *und die* Nordsee. *Im Westen*, Frankreich; *Im* Süden, *die* Schweiz *und* Österreich; *im* Osten, Russland. *Sagen Sie mir die* südlichen *Grenzen, u.s.w.*

(2) *Hier sind die Gebirge. Die Gebirge sind im Süden? Gibt es Gebirge im Norden? Im Norden ist Deutschland flach; im Süden ist es gebirgig. Die grössten Gebirge heissen:—Der Schwarzwald, im Westen; das Jura-Gebirge, in der Mitte; der Böhmische Wald, im Osten; das Erzgebirge; der Thüringer Wald; der Harz.*

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[1] Why should something "easy" of apperception be chosen? Because we do not want to introduce too many new topics at once. The attention of the pupil must be mainly directed to technical skill; this is a great task in the preliminary stages, and hence he must not be diverted from it by any new thought about History or Geography.

(3) *Hier ist ein Fluss im Westen. Er heisst der Rhein. Ein Fluss hat eine Mundung. In welche See mündet der Rhein? Im Süden fliesst die Donau. "Donau" ist feminin; "Rhein" ist masculin.* (So with the other principal rivers.)

(4) *Hamburg liegt an der Mündung der Elbe. Hier ist Hamburg. Hamburg ist eine Stadt. Berlin (an der Spree) ist auch eine Stadt. Berlin ist die Haupt-stadt Deutschlands. Sagen Sie mir andere grossen Städte:—Köln, Frankfort, München, Dresden, Breslau, u.s.w.*

The opportunities for reading-material are now abundant; for free practice, the class may write a composition on the rivers, mountains, towns, of England.

SECTION IX

Now, if not before, many teachers would desire to undertake a classification of the sounds of German speech. Space will not here permit a discussion of the vexed question of instruction in phonetic symbols: it is enough to urge that the acquirement of foreign sounds must be subject to the general laws (Imitation, Habit) which underlie all Performance.[1] But, as soon as the class have collected *in writing* a number of symbols in which the same signs recur again and again, they may profitably compare the sounds, and abstract any rules of spelling[2] which concern these. The vowels are the most important. Much time ought not, however, to be spent upon this Section, for correct pronunciation is acquired almost wholly by mechanical, unconscious imitation, not by reflection or even by voluntary attention (except in the case of scholarly adults).

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[1] See *Journal of Education*, April, 1897, p. 223. Mr. Kirkman has since that date continued his inquiries into sources of error in pronunciation, and his work ought to be of great value to practical teachers.

[2] But to introduce a new spelling at this stage, *not* to aid the child to write correctly, but for purposes of audition, seems entirely opposed to the laws of Performance, and, indeed, to common-sense.

The above Course of Study may engage a class for a daily lesson during some twelve weeks; but with a few able pupils, who have already gone through a similar experience in French, it may be completed in a fortnight, if an "intensive" plan of study be pursued. At the close of it, the class is ready to take up some simple narrative, prepared in easy German, or a topic relating to German history or life, and correlated with the rest of the Humanities. Thus, if the class are engaged on Roman History, or on early English History, the story of Arminius and of the *Völkerwanderung* is appropriate; *Luther's* life may very well be taken in connection with the sixteenth century, or *Friedrich der Grosse* with the eighteenth. Side by side with the story, the Grammar would be built up inductively, and some teachers would place a *Deutsche Grammatik für Ausländer* [1] in the hands of their pupils.

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[1] See p. 349, above.

CHAPTER XV

THE ACQUIREMENT OF SKILL (*continued*)— STEPS ADAPTED TO THE SECOND TYPE OF LESSONS.

Though a man cannot at all times and in all places paint or draw, yet the mind can prepare itself by laying in proper materials at all times and in all places. . . . I cannot help imagining that I see a promising young Painter, equally vigilant, whether at home or abroad, in the streets or in the fields. Every object that presents itself is to him a lesson. He regards all nature with a view to his profession.—Reynolds's *Discourses* (Blackie's Edition, p. 39).

Art primarily requires three things: (1) A model or conception, that is to say, an external form which the artist may examine and then try to imitate. (2) The material *on* which the new form is to be impressed. (3) The instruments by the aid of which the work is accomplished.—Comenius in *The Great Didactic*, Chapter XXI. (Englished by Keatinge, A. and C. Black, 1896.)

Young citizens must not be allowed to grow up amongst images of evil, lest their souls assimilate the ugliness of their surroundings. Rather they should be like men living in a beautiful and healthy place; from everything that they see and hear, loveliness like a breeze should pass into their souls and teach them, *without their knowing it*, the truth, of which beauty is a manifestation.—From Plato's *Republic*.[1]

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[1] Quoted (p. 417) in a little-known book by the late T. G. Rooper, H.M.I., called *School and Home* (A. Brown and Sons, London), and used by him to illustrate the need for contemplation in Elementary Art Teaching. The Essay called "A Pot of Green Feathers" in the same volume is one of the best popular explanations of Apperception accessible in English.

"O, thou sculptor, painter, poet,
Take this lesson to thy heart:
'That is best which lieth nearest';
Shape from that thy work of art!"
—LONGFELLOW.

§ 1. *The Sections of a Course of Study in an Art.*—In offering hints for the theory of lessons in the Arts, we turn back to the introduction to Chapter XII (pp. 265–268), where we first of all indicated some general principles common to all branches of Teaching (including distribution into Sections, and steps in Preparation and Application). Our task is now to indicate where the Steps in Teaching for branches of Art are contrasted, by laws of Performance, with the Steps suggested in Chapter XIII, controlled by laws of Apperception and Abstraction.

The performer in any art has acquired, consciously or unconsciously, the control of various powers, which we may call the *technique* of the art. The singer can control his voice-organs so as to produce at will an exact tone; and, quite distinct from this, he can "read" a piece of music and produce a tone indicated by any given symbol: the painter has learnt to handle his brush, to harmonise colours: the linguist has learnt to imitate an accent, to recognise and reproduce a correct sequence of words. There is an order of technique, from simple to difficult, which is indicated in the elementary text-books, just as an order of thought is indicated in the text-books of science or mathematics. Now the teacher of an art, if he has thought the matter out, frames his course of study so as to cover in succession all the elementary stages of this technique. The "Sloyd" teacher has his complete set of models, each introducing a new tool or a new manipulation; the music teacher has his series of "pieces," and so forth. The distribution of a Course of Study into Sections involves therefore an analysis of the various items of skill which have to be attained. Each of these needs to be separated from the rest, and mastered by the proper steps.

On such a plan are based all the special systems, "schools," or what not, which abound among teachers of music, drawing, and languages. The value of these systems varies greatly: the best of them are distinguished by this feature of careful technical analysis, taking up each difficulty separately, recognising the relation between one act of skill and the next.

But many teachers find these formal "systems" unsatisfactory. True, they relieve the teacher of trouble: he has a scheme to hand, and need only follow the master-plan in order to produce a uniform result in all his pupils. But even where the system adopted has been planned with great care, it meets with only partial success.

(1) In the first place, no order of Performance in technique is absolutely the best for all kinds of pupils. Each school or class presents its own special difficulties, and an order of attack which suits one situation may prove disastrous in another. There is no logical, peremptory law which requires the declension of German nouns to be taught before the auxiliary verbs (or *vice versa*), analogous to the law which makes it necessary to teach Euclid I. 32, after I. 31.

(2) In ignoring the individual needs, the system ignores also correlation. The human interest of the occupation suffers if the Sections are planned simply with a view to technical progress. "Art for art's sake" certainly does not appeal to beginners, however much it may satisfy the adult enthusiast or specialist. Interest in technique, necessary to pro-

gress as it may be, is an acquired interest (see p. 38, above), and cannot take the place of wider, human interests.

(3) Finally, teachers who are indifferent to correlation often find it difficult to undertake a satisfactory analysis of their pupils' technical progress in an art. There is a general progress in taste, judgment, choice of materials, precision, arrangement, which eludes classification, and which nevertheless is quite observable when the work of a pupil in one year is compared with his work a year hence. For example, a school with six successive school years learns French. How will you divide off the work of each year from the next? You may, indeed, prescribe a certain vocabulary for each year, and set certain limits to Grammar; but these limits are vague. If you attempt precisely to indicate the relative amounts of skill to be attained in each School Year, you will fail.

Hence the task of dividing a Course of Study into Sections is not one for which rigid canons can here be laid down. Each Section should, as a rule, in the first years of study, contain some new item of technique: in a language, the use of some new modes of speech or style; in painting the imitation and practice of some new model. But this cannot be always required, for Content needs to be considered as much as Form. Thus in painting it may be that, for the ensuing term, we may think it well for our class to learn no new technique, but simply to exercise the power they have acquired, in representing a series of flowers which they are studying in Botany, and in applying their skill in Design (acquired in a previous term) for decorating the walls of their class-room with frescoes. During this term, then, the Course of Study might, if we paid regard only to technique, be considered simply as a revision (Step IV., Practice, see below), of earlier work, not a new "Section" at all. But, if we value Content, and are as much concerned with the "what" as with the "how" of painting, we may divide the term's work into Sections, solely considering the order in the selection of the flowers. As we proceed to consider the nature of the "Steps" involved in a complete Section, we shall see that this latter mode of treatment would *not* involve all the elements which make up a complete Section. Nevertheless, for the convenience of arranging Notes of Lessons, it may be best to employ the term, although, psychologically, it will not involve all the Steps. (This is analogous to our arrangement of Sections in the acquirement of knowledge. We noticed that at times no Third Step would be possible (especially in teaching young children): nevertheless, it is necessary to divide the Course of Study into a series of topics, each complete in itself.) Generally speaking, therefore, what is said in Chapter XIII, § 1, as to Sections in Instruction, will apply here also, substituting for "new idea or group of ideas" "new habit or group of habits," and qualifying this requirement as it is there qualified.

§ 2. *The First Step: Preparation.*—We cannot do better than retain the term employed at the corresponding place in Chapter XIII, for the purpose then is the same as our purpose now, except that the statement of *Aim* is couched in different language. There we agreed with our pupils that we were about to learn some new knowledge: here we agree that we are about to *do* something. But in this First Step nothing is actually done. The process is *solely an intellectual one.* Plead, as we must, for the supremacy of motor activities in this sphere, we have to recognise that, in schools at least, all the arts are to be treated as "liberal," *i.e.* as connected with the life of thinking man—springing from humanistic motives, serving humanistic ends.[1] The succeeding Steps will treat of technique of "Form": at present we begin with "Content." Thus, at the outset of our German lessons, we struck the note of human interest: "these foreign folk were once our kith and kin: they are a 'great' nation—we know of some of their great deeds—they have produced a great literature—hence our reasons for learning their art of speech." This note of intellectual and moral interest will be sustained and renewed in the First Step of many succeeding Sections. Teachers of Music and Drawing too often treat this part of their work with contempt, and hence their work is too often despised by school teachers. Among recent artists, John Farmer,[2] of Harrow and Balliol, ought never to be forgotten—side by side with his poet colleague, Edward Bowen—for the service they rendered both to the schools and to the musical profession. They, more than any teachers of recent days, insisted that the songs of school should possess worthy "content" as well as worthy music.

(*a*) The Aim of a Section in an Art should therefore spring, wherever possible, out of some correlated school pursuit; or, if that is impossible, out of some genuine human interest. In Reading-Lessons, why should the class be compelled to feed on the dreary fare of a Miscellaneous Reader—a kind of literary *Tit-Bits.* Let them read books, as we adults do, for the purpose of learning more about things which interest us. True, when the Reader *is* commenced, it will be undertaken with a technical care and method appropriate to the art, but the "Content" of this piece of art work should be such as corresponds rationally to the pupil's general circle of *ideas.*

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[1] "Invention, in Painting, does not imply the invention of the subject, for that is commonly supplied by the Poet or Historian. With respect to the choice, no subject can be proper that is not generally interesting. It ought to be either some eminent instance of heroic action or heroic suffering. There must be something, either in the action or in the object, in which men are universally concerned, and which strikes powerfully upon the public sympathy."—Reynolds's *Discourses* (Blackie's Edition for Teachers, p. 56).

[1] Editor of *Gaudeamus*, *Dulce Domum*, etc., etc. (Cassell and Co.).

The importance of this argument will be recognised when it is observed how many varieties of art—especially of Manual Occupations—press themselves now upon the school. Many of them in themselves are "interesting"; for children, as we have seen, like to "do things," and most of these arts offer useful opportunities for physical training; but their value for culture will depend wholly upon the possibilities they offer of correlation with other parts of the curriculum. If, then, a choice is about to be made of a Manual Occupation to take up some portion of the weekly Time Table, the preference should be given—(1) to a branch which the teacher can effectively teach; (2) to a branch which can be treated, not only with systematic attention to technique, but in intimate association with other branches. The most striking example of this in Great Britain just now is the adaptation of Sloyd, which formerly was treated almost solely as technique, to the needs of the Physical Laboratory.

(*b*) But this "Content" Aim is not the only feature of the First Step on which the attention of the class should be fixed. We have seen that, as a rule, each Section will seek to impart some new item of technical skill, and the pupils should anticipate this with the same interest that we have demanded in Chapter XIII for the anticipation of intellectual work. Thus, in Section II of the German Lessons, the class are to acquire some useful lesson-words: in Section V, they are to learn how to read a connected passage.

Here we look for the pupil's intellectual interest in the mastery of technique. This interest cannot be relied upon with young children, and hence the importance, in their case, of a careful fostering of interest in Content: but, as soon as a child is old enough to observe his own progress, he can be trained to this acquired interest in the art for the sake of the art itself.[1]

When this is once created, the art becomes something more than a mere employment for school hours. The exercise of new powers becomes a delight to their possessor: a boy conscious of progressive power over French will begin to talk it at home: if he realises his progress in Drawing, he will take a sketch-book with him in the holidays. An art pursued with awakened artistic instinct becomes converted from a schoolroom bore into a home "hobby."

§ 3. *The Second Step: Presentation.*—It seems best to employ the same term[2] as is employed in Chapter XIII, although the mental acts are of a wholly different character. There the Presentation consists in the reception of new individual notions: here it is concerned with the contemplation of some new exercise in the art, followed by copying of the same. In the one, the process is apperceptive, in the other, imitative: the former lays the foundation of new concepts, the latter of new habits.

There are two distinct parts of every such

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[1] W. James, *Talks to Teachers*, p. 94.

[2] See p. 333, above, for criticism of these technical terms.

Presentation, but they are not separated into two Steps because they are closely interlaced.

(*a*) In *Contemplation* the pupil is receptive, passive: his work is partly intellectual, but the psychologist will tell us that the motor system is already at work, anticipating, as it were, and subconsciously practising, the exercise which is contemplated. The teacher plays the air of a melody to a singing class: if an observer closely watches the pupils, he will see nerve signs which indicate how their attention impels them, without knowing it, to "go over" the air.[1]

At the same time, the intellect is active, comparing and contrasting, but the end in view is not thought. After playing the melody, the teacher does not say, "Now think about the relations of these chords," but "Now sing the notes I have played." If, presently, he *does* desire to bring their *thoughts* above the threshold of consciousness, he is leading them to another Step, which we shall consider subsequently, and a distinct effort of mind would be necessary to them in order to turn their minds from action to intellection.

Let it further be observed that while the pupils undertake this formal act of contemplation as a part of the work of a Section, much of the experience[2] necessary to skill in the art will be gained apart from lessons. Just as many of the ideas relating to a new body of thought are gained apart from school, so much Contemplation is pursued apart from school. What the teacher does is to *select* examples (in certain cases his own actions being the example), and combine the varied experiences of the pupils with the specific experience now afforded, so as to ensure an adequate Contemplation by every pupil. Sometimes this experience cannot be gained in the class-room at all, and the substitutes offered in the class-room will only be effective so far as they rely upon experiences gained outside. The models offered by the art teacher are no substitute for the Contemplation of the natural world.[1]

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[1] Every one is conscious how, after listening to good songs, the one which has laid most hold upon a hearer will be subconsciously repeated for hours afterwards, when his chief attention has passed to other matters.

[2] I use the term employed by Principal Lloyd Morgan (*Psychology for Teachers*, p. 30 and Chap. IV).

On the other hand, the reluctance of teachers to select and prepare careful models for the imitation of their pupils is a fatal bar to progress. A class can no more be expected to pick up for themselves the necessary experience in an art than they can pick up knowledge from books. Some teachers will deny the necessity for imitation, from a fond pride in the originality of their own performances:[2] others, especially in the arts of native language (speech, reading, handwriting) will refuse to see how their own daily performance in their pupils' presence presents an execrable and ruinous example. Contemplation, pursued with voluntary or involuntary attention, is the basis of all action, and what is pursued irregularly and at all times out of school needs all the more to be regulated and supplemented by the method of school lessons.

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[1] "Nor, whilst I recommend studying the art from artists, can I be supposed to mean that nature is to be neglected; I take this study in aid, and not in exclusion, of the other.—Reynolds (Blackie's Edition for Teachers, p. 75).

[2] "A painter must not only be of necessity an imitator of the works of nature (which alone is sufficient to dispel this phantom of inspiration), but he must be as necessarily an imitator of the works of other painters: this appears to be more humiliating, but is equally true; and no man can be an artist, whatever he may suppose, upon any other terms."—Reynolds, p. 68. The Sixth Discourse throughout is well worth careful study, as a model of literary style as well as for its doctrine.

Compare also the interesting Circular on *Reading in Schools* (No. 407, 1897) issued by Sir G. W. Kekewich from the Education Department. It affords illustration at several points of the theory of this chapter.

If space permitted, it would be possible to illustrate by a variety of examples how large a part may be played in the life of a school society by the selection of appropriate examples for Contemplation in various arts. A good piece of music played occasionally to the school; the selection of harmonious colours in decoration; insistence upon neatness and order, not to speak of artistic form, in the external appearance of rooms and corridors. The cultivation of a right "tone" in matters of behaviour and conduct carries us quite beyond the realm of class-teaching, and indicates how the same principles of Art Performance through Contemplation and Imitation extend to the deepest problem of school life in Guidance and Government (see Chap. I, p. 16, above).

(*b*) The arguments which Sir Joshua Reynolds found it necessary to urge on behalf of Imitation need still to be repeated, for the schools are to-day more than ever under the domination of a psychology which cares for little else in the mind except the intellectual powers.

But we are not concerned to plead for Imitation as a method or device invented by teachers.[1] Once more, to resume the standpoint taken in treating of Method in Instruction, we are dealing with inevitable laws of mind. Skill *is* attained by imitation and in no other way. The teacher who talks about his art much may not be a teacher of his art at all! If we labour this point further, we shall ourselves be guilty (in our pedagogic art) of the error we denounce!

Some features in this act of imitation may be noted. (i.) The direct object set before the pupil is *fidelity*. The pupil's purpose is to learn a new exercise. His personality is to be suppressed: he is to do "as he is told." We are, of course, dealing only with pupils in the elementary stages of art-attainment. As the student reaches the years when he himself is a master, he still copies, but his imitation is more selective.[1] Not so the beginner: he must submit himself absolutely to a "master," and if we have to lament in later years that he has acquired some meretricious habits due to the defects of that master, we can only lament the inevitable circumstance, and reflect, as teachers, upon the heavy responsibility of our office. The business of the school is only with the rudiments of the arts.[2]

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[1] Compare p. 263, above

This responsibility is especially great in those arts, such as Music and Language,[3] where the teacher himself acts as the model; but it cannot be ignored in the arts of representation, even though the teacher may supply copies and examples which he himself has not worked.[4] The teacher of Carpentry may procure a series of worked models for his class to copy, but unless he himself can quickly and accurately copy the originals, he will find it hard to direct the performance of his pupils.

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[1] "When I speak of the habitual imitation and continued study of masters, it is not to be understood that I advise any endeavour to copy the exact peculiar colour and complexion of another man's mind; the success of such an attempt must always be like his, who imitates exactly the air, manner, and gestures of him whom he admires. His model may be excellent, but the copy will be ridiculous; this ridicule does not arise from his having imitated, but from his not having chosen the right mode of imitation."—Reynolds, p. 74.

[2] "The first degree of proficiency is, in painting, what grammar is in literature, a general preparation for whatever species of the art the student may afterwards choose for his more particular application. The power of drawing, modelling, and using colours is very properly called the Language of the Art."—Reynolds, p. 27. (Grammar obviously includes the art of correct composition in this passage, as in the title "Grammar School.")

[3] In Language, the involuntary influence of each pupil's language upon the rest is well understood, and many parents attach too much importance to it. Children learn a new style of speech quickly—they can also *un*learn it quickly in a new environment.

[4] Ruskin's *Laws of Fiesole* (Elements of Drawing arranged for the use of schools) have been already referred to. His insistence upon accuracy—using measurement where necessary—is a marked feature of his Elements.

(ii.) While the direct purpose of this Step is to achieve faithful reproduction of an original, it cannot be expected that the pupil should entirely relinquish his own individuality. The "personal equation" survives even in making a pot-hook or in mixing colours: still more in the more "subjective" and symbolic arts of music and language. Now, so long as these variations from the original are unconscious, and are not directed by a positively errant will, they only need to be corrected where they plainly lead to error, *i.e.* where they will establish a bad habit, if repeated. Thus, in the mechanical arts of spelling and pronunciation, *any* variation from the type is an error. To spell badly *may* be a sign of originality, just as a lisp has sometimes been accepted as a sign of good breeding, but it is a sign of mental vigour to be able submissively to overcome these errors at the bidding of a teacher.

(iii.) There are varieties in the mode by which the original may be presented for imitation. Memory drawing plays a prominent part in good systems of Art training: the original has been contemplated, but the pupil's performance is re-created from an image. In recitation, the passage may be delivered by the teacher, and then "copied" by the pupils:[1] or they may be supplied only with the written or printed original, and may construct, from their experience, their own mode of copying.

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[1] Assiduous "copying," *i.e.* recitation of good literary models, has been always recognised (at least since the days of Demosthenes) as a valuable element in culture. But it has been more and more neglected since the invention of printing.

Very often the Presentation will require to be carefully *articulated*,[1] each item being contemplated and then imitated, before the next is brought forward, then at the close all the portions will be grouped together. Section I in the German lessons offers an example of this. Just as in the Presentation of new knowledge so here, a Section may extend its Second Step over several weeks before it is found convenient to proceed to Rules and Practice in the later Steps.

(c) The intimate association between some bodies of knowledge, such as the Humanities, and some arts, such as Language, makes it often necessary for them to be combined in the curriculum under one branch. Then it often happens that there is an extended Presentation, in which the class are simultaneously learning new knowledge, and copying (*i.e.*, hearing and reading) new materials in linguistic art. During the course of such a study, the teacher will select at his discretion some small portion of his material for definite art study. Thus, in studying a drama, one passage in an Act will be chosen for special formal study as recitation, and from this as a model some new technical exercise in Composition, oral or written, may be taught. The rest of the Act will be read, silently [2] or aloud, and the reading will all the time constitute a help (or a hindrance !) to the pupils' artistic skill ; but their attention during such reading will be directed to

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[1] Cf. p. 319, above.

[2] Silent reading is, or should be, "copying." Individuals vary as to the extent to which they "hear," *i.e.* employ the powers of audition, while silently reading an author. And the same individual will act differently with different authors. Few can read Shakespeare without inwardly dramatising the printed page : but Bacon can be apperceived solely by aid of the visual organs.

Content (knowledge) rather than Form. This interweaving of Knowledge with Skill constitutes one of the chief practical difficulties in the construction of a series of lessons. The teacher finds it difficult to analyse the various constituent elements of his work, and to apportion fairly the time at his disposal between the claims of the various duties which are laid upon him.

This blending of knowledge and skill is found in all the important branches, and no teacher can afford to be ignorant of Method in either sphere. Arithmetic is both a Science and an Art; Language is an art which every teacher takes a share in cultivating, and Drawing, with young children, may be made almost as valuable an instrument of culture, when teachers themselves know how to employ it as such (p. 322, above).

§ 4. *The Third Step: The Rules of Art.*—The practical activity of Imitation is followed by an intellectual process, wherein the pupil reflects upon his performance, and, very often, formulates his practice under rubrics or rules. It will be at once noticed that this is a generalising process, passing from concrete to abstract, as in the Method of Chapters XII. and XIII. It may not always be necessary to go through a conscious process of expressing the rule in words, but the principle of Abstraction obviously underlies the achievement.

Nevertheless, there is a distinction between the apprehension of Rules and the abstraction of General Ideas. Rules may be empirically obtained and understood *for the purposes of the art*, without involving any deeper process of reflection. The aim of *an artist* is to get a working rule for his own guidance. He is not interested in rules *as such.*

Grammar was not invented by poets, but by grammarians?[1]

Art has, indeed, its rules; but the teacher who makes these the principal thing kills the art! This is well recognised in some arts, but not in others. Theories of Music, of Drawing are kept in due subordination to skill in Practice, but in the art of language skill has been despised, and has been honoured less than the sciences which spring out of language studies. Indeed, the conception of a foreign language as a fine art, cultivated with æsthetic grace, is almost extinct, and certainly will not revive until our conceptions of the worth of the people who speak the foreign language are ennobled. For, while the Fine Arts transcend at last the petty rules of the schools,[2] they never part company with the artist's intellectual interests in great ideas. A noble Content, high thoughts on great subjects, are of the essence of a great Art; and if University studies in Modern Languages are to gain the same ascendency over men's sympathies that Music and Painting possess, it will spring from their association, not with Philology and Syntax, but with the Literature, the History, the political and social life of the peoples who speak the Languages.

So we admit the value of Rules, as playing a necessary, though subordinate part, in Method. Some artists despise them, because they themselves are not intellectually inclined. But in the school, at least, every pursuit must be tackled in an intelligent fashion—even cricket and football may be usefully expounded by rule!

The *mode* of study will vary greatly: in Language the class may profitably go a long way in systematising their vocabulary and the rules of grammar, while in Music, unless the pupils are to become "performers," little time can be profitably spared from exercise and practice. An amateur[1] can enjoy and benefit by good interpretations of simple music without knowing much of technique. If the art is to be so pursued as to enable the learner to use his skill up to advanced stages, then his whole mental powers must be brought into play in order to grasp the study on every side: but if the art is treated at school only in its preliminary stages, and principally as a means of æsthetic culture, the teacher will be satisfied with quite a fragmentary apprehension of theory.

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[1] Compare the Tennyson story, p. 59, above.

[2] "Could we teach taste or genius by rules, these would be no longer taste or genius."—Reynolds, p. 44.

§ 5. *A Fourth Step: Practice.*—When rules are apprehended, they must be practised, otherwise the learning of them is folly. And even where the Presentation has not produced any formal statements of the kind, the new exercises presented need to become part of the mental habit by every possible mode of practice.[2]

Practice is once again Imitation, for the acts of the pupil, although entirely his own, are still only a repetition of those contemplated previously in the Second Step: but with a difference. A new combination is proposed: the same melody, but in a different key—or another melody, similar in style to the one which was imitated in the Presentation. In the German lessons given above, the Fourth Step seems to be very much a repetition of what has gone before; but it will not be felt to be so by the pupils, for they are themselves employing a power which they have gained: the actual forms of speech used must be exactly those of the Second Step, but now it is they who are employing them on their own account, practising a new habit of their own.

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[1] We have to recognise that in many Fine Arts (Music, Painting, the Drama) the aim of the teaching, as a part of liberal education, has to be limited to the needs of the amateur, who can contemplate and appreciate, with benefit to his own culture, far beyond his possibilities of performance. This consideration is of great ethical and æsthetical importance, and needs detailed treatment in working out the Special Method of teaching each fine art.

[2] "A facility in drawing, like that of playing upon a musical instrument, cannot be acquired but by an infinite number of acts."—Reynolds, p. 36.

Thus the key-note of this last step is—freedom, initiative, independence.

(*a*) The relation of this to the preceding Step needs to be carefully watched. Practice is no mere "application" of a rule. True, the rule will often perform a useful office, and the performer may carefully think and check his action by considering whether he is obeying the rule. But, in many arts, the conditions of performance leave no time for such reflection until it is too late to repair an error: this is true especially of music and of speech. Afterwards the performer may sometimes recall what he has done with profit to himself, and recognise where he has failed: but it is a common observation (especially in language-teaching) that success is hindered by hesitation and reflection. A sentence is like a rapid sketch—it must be done at once, or it has failed. Detailed correction at the moment sets up a struggle between the intelligence and the will that hinders freedom.

The chief aim of practice is right habit—habit so certain of itself that it has become involuntary. If the consciousness of rule help this process, well and good: if it embarrass, then it has been converted from a good servant to a bad master.

(*b*) The forms of Practice vary, from those which contain elements exactly like the material of the Second Step, to forms which offer combinations entirely free and independent. This distinction is vital to the whole inquiry into the development of the Arts.

At the first start, the pupil must submit himself as a mechanical tool, doing exactly as he is bid, imitating point by point. If his lively will, or other predisposing cause, magnify the personal equation, his progress will be hindered.[1] But, with every Section, the range of possible initiative widens: every new exercise affords new modes of combination with the older ones: every point of sympathy with fresh Content enables him to labour again, with a new insight, over the technique.

And further, this progress in freedom is essential to progress in the art, as in the entire life of the artist. This is the great doctrine which John Ruskin cried for so many years in the wilderness, with regard to the degradation induced by the mechanical arts of the factory. Every artisan knows that he cannot "get on" to a second machine, if he is kept too long at the first.

If Practice in Arithmetic degenerates into a dreary vista of "doing sums" exactly like the "sums" done last term, then the Mathematician becomes a good elementary calculating machine, increasing in speed, but not in the higher forms of skill.

(*c*) The limit of definite separate practice of a new habit is obviously found in the demand that it *should become* a habit, *i.e.*, that it should be performed finally with a minimum strain of voluntary attention, so as to leave the higher mental powers free for advancing upon new paths. But a serious error may be incurred from the desire to obey this law. The pupil may take so long to form the habit that he may be kept back from new Sections of study. Young people cannot form new habits all at once: a fair progress must be expected—nothing more. A striking example of this is seen in the teaching of Handwriting[1] in many Elementary Schools: the work is done so slowly and carefully that the pupils fill book after book of writing which is little more *than* writing. Composition is restricted by the effort to form each letter perfectly; hence freedom of thought, even of sentence-construction, is woefully hampered. The error is similar to that incurred when children are compelled to "learn lessons" with perfect accuracy: the strain is too great: weariness ensues, and the final result, as far as accuracy of recollection even is concerned, is worse than if the children had been allowed to go on to a new Section, with the previous one imperfectly remembered. Habits of accuracy must, indeed, be attended to, but they have often been worshipped as a fetish. It must be remembered that all important exercises in an art (especially in the useful arts commonly acquired at school) will be *ipso facto* practised in many other branches of the curriculum, and apart from the school altogether. A pupil only learns to write well finally by writing carefully in *all* the exercise-books, note-books, etc., which he employs. Writing in copy-books alone will never make a good writer. If the teachers of Arithmetic, of Science, of

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[1] Chap. XIV, p. 344, above.

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[1] It is true also of much elementary work in Arithmetic. This criticism is not levied as a charge against the skill of the teachers, but it arises from the inevitable difficulties of the situation—large classes, requirements of authorities, etc. It is the teachers themselves whose opinion is here indicated.

Composition, are careless about the matter, and allow their pupils to "scribble," the mischief cannot be rectified in writing-lessons.

(*d*) In a mechanical art such as Handwriting, the aim is achieved when the sequence of involuntary reflex actions is established. But in the liberal arts, as we have seen, such machine-like practice destroys progress. We have to look forward to an ever-growing sense of independence, which in the greatest artists expands into genius, and which, even in the performer of moderate talents, expresses his own individuality. Indeed, we might be justified in adding a Fifth Step to our series, and name it *Invention*, for the artist must finally reach a stage where he is no longer thinking of rules at all, or at least is making his own rules;[1] but there are two reasons which seem to make it unnecessary to give a separate place to *Invention* in the art work of a school.

In the first place, as a matter of theory, Invention is only a higher kind of Practice. "Strictly speaking, it is little more than a new combination of those images which have been previously gathered and stored in the memory."[2] In other words, what we call "original power" is not something which as regards development or training, can be classified apart. The product, indeed, is something new to the world, as new Content, but the *psychological act* is the same as that involved in the production of less original work.[1] Indeed, no hard and fast line can be drawn between an effort of genius and the outcome of mere good ability. We can, indeed, recognise and acclaim the best work of genius as such, and again we can, with different feelings, refuse the name of genius to the commonplace labours of the dullard: but we often err. Both study in the same Schools: they wear the same dress: employ the same materials: cultivate the same habits. Who can be sure that here is an apostle, and there a windbag? A touch of genius itself seems needed to discern the marks of heavenly birth.

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[1] "What we now call Genius begins . . . where known, vulgar, and trite rules have no longer any place. It must of necessity be that even works of Genius, like every other effect, as they must have their cause, must likewise have their rules."—Reynolds, p. 70.

[2] Reynolds, p. 79. The whole of this Sixth Discourse is invaluable. The Genius, according to Reynolds, never soars so high as to despise the need for *Imitation*. "I am of opinion that the study of other masters, which I here call Imitation, may be extended throughout our whole lives, without any danger of . . . enfeebling the mind" (p. 68).

In the class room, at least, no questions as to original power need be raised. Ability in one art or another is certainly to be distinguished, and the teacher has an important duty in detecting such ability, for it sometimes serves as an indication of the sort of career in life which will suit the pupil who exhibits it. But because a boy shows dexterity with the pencil, and taste in combining colours, we are not to inform his mother that he is destined to exhibit at the Royal Academy. Such questions cannot arise until after the pupil has grown to adolescence,[2] and has begun to look on art and life with the emotions and thoughts of the adult.

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[1] "From the point of view of artistic perfection, there is all the world between the youthful verses of Goethe, and the doggerel of the common schoolboy. But, psychologically, the schoolboy's doggerel may be the result of as strong a craving for poetic expression, as any of the world's greatest poems."—Yrjö Hirn, *The Origins of Art*, p. 21 (Macmillan, 1900).

[2] The possibility of the development of genius *after* adolescence has laid a firm hold on the imagination of public men, and is playing a curious part in the politics of Education at the present moment (see, for example, the speech of Sir W. Harcourt referring to "mute, inglorious Miltons," in the House of Commons in June, 1901). But it should be borne in mind that schooling can do little either to hinder or to develop true genius. The teacher is too arrogant if he

An apparent exception is suggested by the performances of child pianists, one or other of whom is being continually exhibited for sensational purposes or for the advantage of the parents' pocket. But these performances display *no* genius: they are merely the result of a very high order of imitative power, combined, of course, with real artistic taste. On general principles one would say that the effort required in a child before puberty to prepare his work for exhibition and public applause, either in Painting or in Music, must necessarily destroy the possibility of higher artistic development. Such development depends absolutely upon "Content"—ethical and intellectual, as well as emotional: upon freedom and leisure for culture in early years. Where can all this be found when the child has to offer his work with all the painful effort of technical completeness, combined with the glare and folly of public exhibition—an exhibition in which the applause is meretricious, for it is given, not because of the absolute value of the performance, but because the work is produced by a child.

Hence, we shall here only admit one Step in Practice, but plead for the distinction, wherever possible, between—

A. Practice in forms similar to the copies of the Second Step.

B. Practice in dissimilar forms—freer than in A. leading to independence both of thought and action. While we admit that in some—mechanical—arts this second form of practice is impossible, we urge with all the more emphasis that free practice should never be neglected in the liberal arts: and a liberal

thinks it within his province either to suppress or to create a poet. But *all* great men show sufficient signs of *general* ability and intelligence, long before adolescence, to warrant the school in selecting and encouraging them to proceed with their education. This *general* ability is an essential quality of genius, and always shows itself before adolescence if looked for under the ordinary conditions of school life. Hence, they are not likely to escape the educational ladder. It is another question whether Genius will not have deserted them before they reach the top!

education implies a curriculum in which these arts, pursued in a liberal spirit, have full play. It must be recognised that the pupil, unless disciplined with an iron rod, is full of impulse towards initiative: he can only be safely allowed to grow to manhood, if he be gradually given the right to use whip and spur as a master. His efforts may appear ridiculous to the teacher or the onlooker, but they are his own. He can speak—then let him have the chance to interpret the orators and poets with his voice: he can sing—then let him sing, within limits, in his own style: he can draw and paint a little—then give him freedom to use sketch-book and colours: he can write—his essays will not show original power, but the combinations will be, to him, original, and let him try his hand.[1]

Even in arts which seem to leave no room for original combination, a boy will show his powers at times. A group of school-boys were discussing a neighbour, who was able to stand without flinching the severest scolding. "Yes," said M., "Jack Hendy is *jaw-proof!*" Could Carlyle have invented an epithet more apropos? The present writer heard the remark twelve years ago, and has not yet forgotten the artistic talent of M. in word-making, though he has forgotten M.'s name!

§ 6. *Suggestions for Further Study.*—It will be evident to the reader that this short chapter is a contribution, very limited in scope, to a great subject. There is an immense field of exploration awaiting teachers who have the leisure and taste to make experiments. Where these are undertaken *with a basis of equipment in psychology*, the result is bound to be fruitful. In Drawing, already, useful material is being collected, and reference may be made to a few writers—

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[1] He can write in verse also, if we have the taste and can afford the time to train him. Not only in Latin or Greek, but in English! See a letter by Mr. W. H. Rouse, "Verse-making dies hard" (*Journal of Education*, December, 1901).

(1) The late Mr. Rooper's addresses on "Drawing in Infant Schools: a Study in Practical Psychology," and "Art for Children," in a volume *School and Home* (A. Brown and Sons, London). Mr. Rooper made good use of experimental work by M. Passy, published in the *Revue Philosophique*.[1] The analysis of results undertaken by Mr. Rooper offers a useful addition to the hints on Contemplation and Observation given above: the danger of contemplating models in place of incessant contemplation of the original: the interference of "old mental images" with the actual sense-impression of the observer: the value of chequer-drawing as practised in the Kindergarten, are topics on which his experience throws light, and which should aid towards a more thorough pedagogic investigation of the principles underlying Performance.

(2) *Studies in Education*, by Earl Barnes, contain a number of records of children's work in Drawing and in Language, on which Professor Earl Barnes bases his conclusions. These records were conducted on the quantitative method of Child-Study, with which English teachers have now become familiar, largely owing to his work in London since 1897.

(3) Mr. Ebenezer Cooke's studies are of earlier date, and are, perhaps, better known in England (see *Journal of Education*, 1888).

Further progress in Method is likely to depend upon the possibility of finding teachers who are equipped in three ways—(*a*) with a basis of acquaintance with psychology and child-nature; (*b*) with a thorough power over the special branch of teaching which they are about to investigate; (c) with favourable conditions for extended observation and experiment, such as our regular schools can seldom offer, since this is not their proper function.

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[1] See *Life of Rooper, with Educational Essays* (Blackie & Son, 1907).

Out of the mass of contributions to pedagogy at the present time, only a small portion bears upon Method, and this portion is only of value when it is contributed by writers with qualifications and opportunities such as we have described. Fortunately signs are abundant that teachers with such opportunities and interests are turning their attention every year more and more to the problems of Method, and treating them in a scientific spirit.

§ 7. *On the Construction of Notes of Lessons.*—The frequent references in the above chapters to Notes of Lessons make it advisable to add a few suggestions as to the way in which teachers can prepare themselves for giving lessons by the writing of memoranda. The great bulk of such writing has hitherto been done by young teachers or students, not for the genuine direct purpose of teaching, but as an exercise required by inspectors or examiners. The inspector is not wholly to blame if such writing appears artificial, and shows its marks of origin.

Teachers who have never had to prepare such Lesson Notes for inspection, or, having prepared them in student days, avoid repeating the process when they "get to work," are often disturbed by the suggestion that such writing of memoranda should be a regular part of their daily practice. Often enough they will draft syllabuses or Courses of Study, but notes on Method require more time, and also a different line of thought.

Indeed, teachers who, after some years of practical work without guidance, come to take up the study of Education, often become seriously embarrassed in mind by the complexity, the anxiety of the problems suggested by works on Education: they are brought face to face with situations of a novel and serious character, which they are scarcely prepared to encounter. The present writer has come across more than one professional student whose work was being seriously hindered by overmuch study, by the difficulty of keeping the balance between the many-sided issues involved in theory, and the instant, rigid requirements of practice: they remind one of the tragic situation of the centipede![1]

These anxieties may perhaps be alleviated by noting how teachers of experience, who have trained themselves to prepare all their lessons with care, set about the task, and are able to combine theory and practice. After all, the same embarrassment is met with among practitioners in other callings: the young medical man, for example, is nowadays often disturbed in practice by knowing more of his science than he can make use of, until he has been taught by experience to select and act with rapidity and confidence.

(1) When a teacher *begins* to write Notes of Lessons, the only safe rule is to write down, in great detail, *exactly what he thinks will happen* during the course of the lesson he is about to give. He will say something, handle something, give a direction; then a pupil will say or do something: let it be put

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[1] The verse may not be universally known:—

The centipede was happy quite
  Until the toad—in fun—
Said, "Pray, which leg comes after which,
  When you begin to run?"
This wrought her mind to such a pitch,
She lay distracted in a ditch,
  Considering "How to run!"

down word for word in the Notes. This is, indeed, a tedious process, and can only be done satisfactorily by a teacher-in-training, who is only giving one Course at a time. But something approaching to it can be done by a zealous teacher in full practice, if he select one of his classes, and one Course of Study, and devotes his spare time to writing full Notes for that class, giving less attention to other Courses. The insight gained by so doing will improve all the rest of his work, even if he has no time to keep any memoranda upon that work. It is only by such detailed exercise that a teacher comes to an objective realisation of what goes on in his own class-room. After the first lesson is over, he prepares for the next, and compares his Notes with what actually took place: his draft of Notes for the second lesson proves to be a much better forecast of the issue than that prepared for the first lesson!

Many teachers, however, like to have some scheme to work from: some "shape" into which their Notes may be put: this saves time and thought, or it relieves them from responsibility. This desire for a scheme has accounted for the survival up to the present day of the traditional rubrics of "Matter," "Method," "Illustrations," the headings under which so many thousands of Lesson Notes have been prepared from time immemorial. These divisions are historically traceable from the pulpit (for the Church gave the pattern to the teacher), just as the school benches are traceable from the seats of Mediæval Churches. In recent days the Herbartian "Steps" have been welcomed for a similar reason. Lessons are now prepared, in Training Colleges and outside of them, with great industry, in which Preparation, Presentation, Comparison, appear in the proper order, and the writer feels satisfied that his scheme is right, and that his lesson is certain to succeed. This and the preceding chapters may, indeed, be regarded as a further aid to teachers in search of schemes for Lesson Notes, since emphasis has been laid throughout on the necessity of system, sequence, and appropriate technical terms in the whole business of Method.

Hence, it is the more necessary for the present writer to indicate the danger involved by any shallow imitation of the moulds into which Lesson Notes are thrown. Such Steps are, in the first place, of value as a necessary part of the study of Method, when exhibited in a text-book such as this. They are of value, further, to a young teacher when *beginning* to prepare his lessons, for in the first stages of this art he needs to imitate a model pretty closely, just as the beginner imitates in any other art; and teachers when beginning are advised to try and imitate pretty closely the models, thinking out the sequence of the Steps in each Section. Further, if the Steps prove themselves, after careful study and experiment by other teachers, to be based on sound experience, they may very properly be copied again and again, and be improved by the process. This has been the case with the work of the Herbartians, and the *Theorie der Formalen Stufen* seems likely to take a permanent place as a type for the construction of lessons in certain branches.[1]

But the danger of abuse is great. The "Steps" are full of pitfalls: they are only valid so far as they conform to the actual state of mind of the pupils for whom the lessons are prepared; and a teacher who relies on them as a substitute for his own investigation of the needs of his class soon finds himself in a quagmire. Hence the absolute necessity of the simple rule laid down above—no one can begin safely to prepare notes of lessons otherwise than by making acquaintance with the class which he is to teach, and writing down, as fully and exactly as he can, exactly what he thinks will take place. From this starting-point "Steps" will evolve: articulation will become clearer every time: Rules will evolve or general ideas will rise to the surface: Application will be demanded *ad rem.*

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[1] See p. 334, above.

This warning is especially necessary when the teacher bears in mind the complexity introduced by the interlacing of one branch with another (see p. 367, above). The teacher is doing so many things at once: he is instructing in History, but, at the same time, he is training his pupils in the art of reading and composition: this last brings up defects in elocution or spelling. Further, a beginner, who plans the whole work of a Section beforehand on some scheme, runs the danger of having to reconstruct the whole set of notes again before he is half-way through! He must, of course, have some clear idea in his own mind as to how the work will proceed (see Chap. XIII, p. 310, above), but he should not rigidly adhere to this if he finds that his pupils cannot follow. The *Aim* which comes out in the First Step does not commit the class to proceeding along a road which proves impassable.

(2) After a teacher has gained experience by writing such a series of detailed Notes for a Course of Study—notes such as are written now in some Seminars and Training Colleges under the direction of lecturers—he is able in the future to do his work efficiently with memoranda of a much briefer character. The young physician will take very elaborate notes at times of a patient whom he is

studying, but when older, a few brief lines will serve him where a page would have been needed formerly: so with the teacher. But it is always advisable to make these memoranda in *diary* form, *i.e.* to enter the date, and to make *some* record for each lesson. A separate Note Book should be kept for each Course of Study: the first pages (written on one side only) would be occupied with a sketch of the Syllabus, and then follows the diary, slight or full, as the case may be. This has the advantage of supplying a convenient place for the entry of any exceptional matter. A new way of working out a Section or illustrating a topic, a new idea of any kind, may turn up—often during the course of a lesson: it may in this way be entered at once in the right place, and can be found when wanted. Even this amount of work needs time: the pressure of other duties is as much responsible for the neglect of Method among teachers as is the indifference to the subject which also prevails. But it is something gained if the teacher is able to arrange a system by which he can utilise to the best advantage the scanty time at his disposal: a teacher of very moderate abilities will thus succeed where men of more brilliant gifts fail. "Incompetency," it has been said, "is the gift of heaven, but business habits may be cultivated!"

If the labour of preparing Lesson Notes appear to be great, practice will make it more easy—in this as in all other exercise. And in one respect the teacher's reward is certain: he will gain, with every experience of the kind, an increase of intellectual interest in his calling. The "grind" of teaching is at times painful: outsiders are accustomed to pity the teacher because his life is spent among immature minds, working week by week the same pumphandle at the school-desk. Dreary, indeed, is the employment—the dullest and sorriest of trades—if it degenerates into "gerund-grinding" and "giving" of lessons; especially, too, if the man as he advances in years finds his sympathies less and less satisfied by the social outlook of a school society. But if he treats his work as professional; if every new Course of Study, every new Section, presents a new scientific problem; if every new pupil and new class renews his intellectual strength for a fresh inquiry into aims and principles, then, indeed, he finds that the old saw, *Ars longa, vita brevis*, is as true of Education as of every other field for human activity and intelligence.

Note on Chaps. XII.-XV.—The reader may observe the effort made by the author, in planning these chapters, to follow the order of Preparation, Presentation, Formulation.

Note, 1910.—To the references on p. 377 should now be added: *Kerchensteiner*, Entwickelung der Zeichnerischen Begabung (Munich, 1906, price 21/-, profusely illustrated), an elaborate and epoch-making work on the development of children's power in art.

SECTION V

CHAPTER XVI

A FEW HINTS ON CLASS MANAGEMENT

§ 1.—THE Management of a class is not a matter which demands elaborate treatment upon a basis of theory. It belongs to the practical, business department of a teacher's work, and success depends upon common-sense, directed by experience among children, and a careful observation of good management by other teachers. The theory which a teacher requires is not a set of "principles" related to psychology and ethics, but practical rules. These rules may, indeed, be referred back to first principles, but it is simpler to assume the theory, while emphasising the practical reasons for the rules. Hence, the present chapter may be regarded as a supplement to the whole volume: offering hints which may be of service to young teachers, but not exacting the same careful study as was claimed in earlier chapters.

Questions of management differ greatly in different types of school. We have already come across the difficulty (Chap. XIII, § 2) created in teaching when classes of fifty, sixty, or more have to be handled by one teacher. We shall direct our hints chiefly to cases where the class does not number more than thirty or forty.

The general idea underlying effective management is to induce a situation wherein neither teacher nor taught think about management at all. As soon as questions of order and discipline rise above the threshold of consciousness, they interfere with the proper business of the class-room. Some impetuous and earnest teachers, zealous for teaching, recognise this fact, and so refuse to think about management at all :—"I won't let my work *be* interfered with," they say. The consequence is—disorder, whether the teacher himself is conscious of it or no. The inevitable difficulties arising from the collection of pupils in a class-room must be foreseen, if the meeting is to be conducted with a minimum of disturbance.

This, so far as Teaching is concerned, is the one leading idea : it should be added that the management of a class incidentally gives great opportunity for Guidance and Government :[1] indeed, so much is this the case, that one might very fairly treat the whole topic of Class Management as a chapter in the theory and practice of Training. But the safest mode of thought is to keep the teacher's attention firmly fixed on *the* one duty—to achieve teaching during the hours of teaching.

§ 2. *Before the Lesson begins.*—Bad air, overheating, untidy floors and desks (*including* the teacher's desk), act as so many incentives to the dissipation of attention. So if the windows have not been thrown up, the order to clear the atmosphere should be given at once ; a glance over the floor, and a sign with the finger, will be sufficient to remove paper refuse into the waste-paper box. If the lesson is a sequel to others, and the children at once show signs of nerve fatigue, five minutes devoted to sharp physical exercise will not be wasted: the energy will be better expended so, both by teacher and taught, than if it were to be spent in disorder and reprimand afterwards.

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[1] See p. 15, above.

The *first time* that a stranger takes a new class, he will do well to anticipate the awkwardness of novelty. If he has a list of the names, arranged in the places where they are to sit, and keeps this list on the desk before his eyes, he will "know" his class by name as soon as they are seated. He has only to call the list over, in order to ensure that each pupil is really at the place assigned to him on the list, and he can then proceed through the lesson, calling on each one by name. This gives the teacher a mastery over his pupils which they readily respond to: their attention is called off from the novelty: and it is easier for the teacher to confine their interest to the lesson.

The teacher's own preparation for the business involves, not only the construction of lesson-notes (see p. 378, above), but the provision of all necessary apparatus, exercise-books, etc., which may be required: for his desire is to conduct the lesson, when once commenced, with the minimum of interruption.

Here may be added a hint with reference to external interruptions. Visitors must occasionally intrude, and their very presence is a disturbance. There is no reason, however, why this disturbance should be magnified. If the visit is from a school officer, for the purpose of some necessary school business, the visitor can wait a moment until a convenient break occurs in the lesson: then the teacher can stop the work and direct the attention of the class (or his own attention if it is a matter solely for himself) to the cause of the interruption. But if the visit is for the purpose of listening to the lesson (whether from an inspector, or a colleague, or a student), there is no reason why any interruption of the proceedings should take place. When visitors enter a machine-shop, they do not expect the machinists to stop work in order to attend to the visitors; and there is no reason why the minds of a class should be diverted by the spectacle of a visitor taking a seat. The class are aware that their work is interesting, and they are not surprised at finding a visitor also interested. In the old days, however, such a visit was regarded as an important event. The class were instructed to rise like automata on the august entry of an inspector or principal: his every look and accent were observed, with great outward respect, by a hundred eyes, and it was difficult for the proceedings to resume the even tenor of their way until he had retired. It is far better that it should be understood among all visitors and teachers in schools, that the etiquette of school teaching does not require teachers to show any courtesy to visitors beyond seeing that they are offered a chair, and provided with the teacher's book of Lesson-Notes or Outline of the Course of Study, if he can spare it, for their perusal.

§ 3. *First Lessons with a New Class.*—An extended Course of Study implies that the teacher and taught will come to know one another week by week, and will also come to know how to conduct the business better as the days pass by. Meanwhile, the earliest difficulties need special tact. Some of the class are, perhaps, habitually indifferent to study: these need to realise the terrors of the law at an early moment. Others are of a temperament which leads them to be "inattentive" and "disorderly," without intending to neglect business: these cannot be "cured" by drastic measures; they should be isolated as far as possible, so that their inattention does not infect others; their wandering thoughts must be led back at every opportunity; when they have strayed so far as to be guilty of some positive misdemeanour, they too must be "punished," but positive punishment will not by itself achieve much. A third type is the dullard—feeble sometimes in intellectual power, sometimes in active energy also: he should be given fair play, and certainly must not be punished for lack of gifts, although the teacher does still worse who helps him to dig the hole for his "one talent."

When one unlucky pupil combines two of these features in one person, then the teacher finds real difficulty, and there is scope for the exercise of pedagogic skill: such a pupil is a "patient" whom a professional teacher may be proud to have in his hands for treatment.

During the first lessons, the teacher observes these elements in the class, but is not disturbed by their presence: he is aware that his work is like that of the sower, whose seed must take its chance, and fall impartially on the allotted ground, stony places, wayside, or what not. He is rather concerned to make sure that he himself does not introduce an additional element of disturbance.[1] It is as important for the teacher to cultivate a professional habit in which the individual self is kept out of sight, as it is for the physician to acquire a "bedside manner," which eliminates elements likely to disturb the nervous system of the patient. Not that the teacher should consciously aim at self-repression (some teachers *do*, unhappily, become automata!): children are not hindered in study by being associated with a teacher whose personal ways and manners are distinctive. But they *are* hindered if this personal factor is obtruded: if the teacher seeks to excite them to industry by magnifying his office or his personal claims: if his own emotional excitement (whether of anxiety for good "discipline" or for results) is communicated by "suggestion"[2] to his pupils.

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[1] Compare Dewey's *Elementary School Record*, No. 1, on Art Teaching (University Press, Chicago, U.S.A.).

[2] In the psychological sense: the subiect has been worked

There is a type of teacher whose character is crossed all through by exaggerated feeling about himself—not always conceit or vanity, but a fatal absorption in the subject instead of the object. The ordinary conditions of school life are not suitable for this type of character: if he succeeds in imposing himself on his pupils, he has done them harm: if he fails, he comes into conflict with his pupils, and is discovered to be a failure in discipline. The remedy for such a fault is, clearly, to insist that the teacher shall absorb himself in the *object* of teaching, in the preparation of his lessons, and thus learn to forget himself in his work. If he can achieve this victory over himself, his pupils will be ready to follow his example.

Such teachers act like fuel to the fire in the case of neurotic, excitable pupils. These often seem to love the excitement of conflict, either with comrades, or with parents or teachers. M. is "reported" by his teacher for disobedience in class. He is not abashed: he thinks he is a martyr; he exhibits a "holy joy" in being distinguished by such attentions! He will sleep better, and find a better appetite, after "scenes" which would utterly humiliate a nature of finer type. The teacher of subjective temperament grows desperate in handling such a case as M.: he can only quell him by first of all controlling himself. He will then be in a position to regulate the turbulent activities of M., not only, on occasion, by quelling his pupil's spirit, but more often by finding scope for his activity in ways which will satisfy his energy without disturbing others.

A more subtle danger, especially among women-teachers, surrounds this problem of personal influence. The teacher's authority gives her a unique opportunity for control by Suggestion.[1] The full discussion of the topic needs handling in the theory of

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out with great ability by French writers—see Sully's *Handbook of Psychology*, New Edition, pp. 560, 561, etc., and, especially, Guyau, *Education and Heredity*, pp. 12 to 45.

[1] See Guyau, as above.

Guidance, but a note of warning may be here supplied. When a teacher, without intending it, has so trained her class that they "will do anything" for her, while they are indifferent to lessons given by her colleagues, it is often a sign that her control is mischievous; and the results even of her teaching will not be thorough, for they will be permeated by emotional elements in conflict with the objective nature of the work. This criticism has the appearance of severity, for it seems a hard doctrine which requires us to censure the fruits of a strong character, energetically, and to all appearance beneficially, stimulating the minds of others. But we are concerned with the final achievement, not with the immediate end; and the exhibition of power by a mistress is only good so far as it creates power of self-control in her pupils.

§ 4. *The Treatment of Offenders.*—"It is impossible but that offences should come." Classes often contain some unhappy members who must be punished, and the possession of authority implies power to punish. The theory of punishment, again, needs separate study as a part of the whole theory of Government. Here we must be content with urging that modes of punishment be so regulated as to interfere to the smallest extent with teaching. If the offender is punished by a tedious exhortation, the whole class is punished, and bored, at the same time. If the offender is to be disgraced by being made to stand apart, let him stand at the back of the room, where he will be out of sight of all except the teacher. But if it be necessary to exclude him repeatedly from the class, the question soon arises whether he ought to be retained there at all; for a pupil who attends school merely to be "kept out of mischief" can be better kept away from school.

If, then, a pupil clearly shows that he needs positive punishment, some decisive treatment, after the lesson is over, vigorous enough to impress the incident on his recollection, is called for, not only in his own interest, but in order to enable the rest of the class to benefit by the lessons. Such treatment may be tried early in a Course of Study, when a teacher takes a new class in hand: if, later on, the same difficulties recur, and there appears to be no exceptional ground for explaining them, then a more radical inquiry into the cause must be instituted; for the whole course of teaching is being wasted, if time is taken up with the repression of disorder. Such exceptional causes in an individual may be due to ill-health; in the class as a whole, to some sudden change in the weather or other external cause of excitement.

§ 5.—All this is negative advice: it is adapted to secure preliminary conditions favourable to the progress of lessons. When we proceed to positive rules for the management of teaching, we rely upon a doctrine which has played a large part in this volume, and which should underlie all details of routine in the class-room:—the pupils are to do everything that is possible, and the teacher is to limit himself to the functions of a guide.

Thus, *in the use of the Blackboard.* Everything that has to be exactly entered in an Exercise-book should, as a rule, be first written on the board. Many teachers do all this writing themselves, but even when their own handwriting is a good model, they might with benefit refrain from the exertion. Pupils can and should be trained to write well in large letters on the board: they will find pleasure and profit in the exercise, and the teacher can keep his eyes free to look at his pupils.

The teacher's eye, indeed, is the controlling force in the class-room, as it is in the presence of any audience. The difference between an old hand and a beginner in teaching is shown most markedly in the power the former has of *seeing* everything that goes on in the room. The beginner has not learnt to adjust his powers: all his attention is taken up with his own utterance, or with the answer by one pupil. The experienced teacher hears this answer, but at the same time he sees an inattentive rascal in the far corner, he notes how the time is passing, and has a spare thought for the next item in his Presentation. Experience in an art alone enables the artist to do half-a-dozen things at once. As a hint by way of learning these habits, young teachers may be advised never to trouble to look at the pupil who is giving a reply, but at *others* in the class. Your ears are sufficient to attend to *him* with; let your eyes help the rest of the class to keep in touch.

The use of the Blackboard is extending year by year. Class-rooms are often now planned with a kind of Blackboard dado all round the room: this enables a number of pupils to work at Arithmetic, Drawing, etc., in sight of the rest and of the teacher.

§ 6.—Again, in the correction of written work, a hint may be useful. The following passage speaks for itself:—

> Francisque Sarcey, who was once a schoolmaster, and is to-day perhaps the best known journalist in France, called attention the other day in the *Temps*, in his own inimitable manner, to a source of waste of teaching-energy that is too often overlooked. "One of the heaviest burdens of the teacher," he says, "is the correction of exercises—a piece of work that does much less good to the boy than it does harm to his master. . . . My friend Gustave Merlet, whose memory is still so honoured in Paris, had a correcting mania. He would annotate at a sitting with his own hand, and with a conscientiousness that was only equalled by his zeal, sixty Latin compositions of at least four pages each, and as many French essays, rising from the work more dead than alive, his eyes, weak at the best, red and inflamed, his mind befogged. He was an old schoolfellow of mine. I ventured one day to take him to task. 'You are killing yourself,' I said; 'neither health nor sight can stand such incessant wear and tear. Your class, too, suffers, for how can you

possibly come fresh to your work after struggling pen in hand through a couple of hundred pages of bad Latin?' 'What am I to do?' he answered; 'most of my pupils are ambitious and indefatigable. If the work on which they spend so much pains did not in due course come back to them with my corrections and criticisms, it would break their hearts. They would think I was neglecting them, and would end by taking no further trouble.' There may have been something in what he said, but, at the same time, every pupil of Merlet's knows that this excessive labour killed him, and that, had he lived, his eyes were doomed. Nor was Merlet an exception. . . . I myself remember many a long hour spent by lamp-light in underscoring solecisms, and making crooked passages straight, for boys who would scarcely deign to throw a careless glance at my pencil strokes, and the very next day would commit the same blunders over again with a light heart. . . . I still hold that so much correction is a weary, thankless task, that it bears much less fruit than is commonly supposed, and that other methods might easily be devised which would do less harm and more good." Better methods there undoubtedly must be. Will not some of those who have already found a more excellent way help the rest of us to walk in it?—*The Journal of Education.*

The situation is indeed tragic where a teacher has to kill himself by mechanical labour in order to convince his pupils that he is "not neglecting them." Surely "the better method" lies to hand. No correction, so-called, is worth much which falls short of "correcting" the pupil's errors, actually seen to be such by the pupil, and really set right *by him.* We must certainly at times devote some labour away from our class in revising their written work; but we ought to arrange that every mark of correction we make shall involve for the pupil at least double the time in thinking about the correction, and, what is more important, *doing* something to repair the error. This rule would lead us, perhaps, to diminish the amount of written work we exact from our pupils, and also to plan for such work so that they may have a fair chance of producing a result with much fewer errors. Will it be regarded as dangerous counsel to suggest that all errors are *not* to be corrected? It may be dangerous for teachers (and there are such!) who are ready to welcome any excuse for neglecting their duty, but for the many (especially among women-teachers) who groan daily under this load, the counsel may be wholesome. Let the problem be examined in the light of psychology and of experience. Is an art acquired best by reflection upon errors? Thus, if a pupil spells badly, shall we cure him by marking every error without discrimination, and making him write the correct symbol in each case? The punishment may, perhaps, lead him to take more pains, but inattention is not the only, or the chief, cause of carelessness in spelling. The pupil has to learn to "*forget* the things which are behind": he must be so encouraged in the practice of reading and writing as to obtain a correct visual memory of the difficult word, so that when he needs to reproduce the symbol, he can confidently do so, automatically, *without* reflection. During the long process of acquiring this habit, he will make thousands of mistakes, but of these only a portion will be worth correcting: these should be so handled both by teacher and pupil as to impress the visual memory sufficiently to make error impossible thereafter (comp. pp. 365 and 372 above).

If this is the case with spelling, where the relation of cause and effect is so easy to trace, it is probably the same with other arts, where the industry of the corrector outvies by far the industry of the culprit.

Teachers who are less oppressed by the need for exhibiting their own industry often distribute the exercises of a class among its members, and let one correct the work of another: the pupils certainly find pleasure in criticism, and the work is rapidly finished with; but the objections to such a plan, if it be constantly followed, are obvious enough. There is no reason, in the nature of things, why A. should spend his time in pondering over the errors of B.: he can learn little by doing so, and he is injured, if the process brings before his consciousness a number of irrelevant topics, which have no concern with his own performance. The plain facts of the situation are, that A. has produced a piece of work which is imperfect: some errors he can himself correct on further reflection, or after some further discussion of the work by the class: he should have an opportunity of making these corrections, before the teacher interferes. Finally, the teacher should step in, to see that these first corrections have been made, and suggest other improvements. This is surely the general rule for practical work of all descriptions: it needs modifying only to suit special situations where marks have to be allotted and so forth.

§ 7. *Taking Notes.*—While great importance is attached in our schools to writing exercises, we are only slowly learning the importance of training pupils to take notes, *i.e.*, to be selective in deciding what is to be recorded on paper for future use. Some things should be learned absolutely at the time, and not be entrusted to a note-book: others are of interest, but need only be written in summary form. The art of making such summaries, of recording results, is one that a careful teacher cannot overlook. Sufficient attention has, however, been called to this point in the discussion of Method: we have seen how a teacher will "point" the different parts of a Presentation[1] by arriving at some form of words which may, under circumstances, be copied into a book for future reference. And, again, how a formula,[2] definition, or the like, may be reduced to the best form of expression, and then recorded. And, again, how the rules of an art[1] may be systematised, and, if needful, worked up in scientific form as vocabulary or grammar.

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[1] Chap. XIII, § 3.

[2] Chap. XIII, § 4.

All this work is equally important side by side with the practice of "exercises," which in earlier days constituted the sole form of written practice. The pupil's training in making records is an excellent form of self-activity, since he is being led to the habit of analysing the fruits of his mental labour—a habit which is of the first importance in all the professions.

§ 8. *Questions and Answers.*—We have noted above (Chap. XIII, § 5) the importance of letting a pupil proceed *without interruption*, even if his answer is partly incorrect. Another caution may here be useful with regard to what is called the Socratic Method. Socrates was a great teacher, but his name has been abused by advocates of the "Socratic Method." Many teachers have been misled by the tradition of his work to regard the Socratic dialogue as a model for class instruction. But Socrates had one main end in view, and his end was very different from that commonly pursued in the class-room: he desired to convict his opponent of folly, by reducing him to a *reductio ad absurdum.* Occasionally it may be well for a teacher to adopt this plan, and a class will follow with interest a keen dialogue between teacher and pupil.[2] But the temptation to follow Socrates needs to be resisted by an able teacher, for he enjoys the exercise as much as Socrates did: if he indulges in the pleasure frequently, he may leave the lesson with the feeling that he has "had a good time": his pupils may have had a good time too, but progress will have suffered!

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[1] Chap. XV, § 4.

[2] It is obvious that questions, as a rule, should be proposed in a manner that leaves the teacher free to select any one to

Nowhere is the fine art of teaching seen to greater advantage than in classes where the teacher has so trained his class that *they* can conduct both question and answer, with a little guidance from himself as leader. The sort of instruction which we have called "developing" is of this type, but it can equally well be employed in the First Step. Self-activity of pupils, repression of the teacher, are watchwords which, in our generation at least, cannot be too often proclaimed. It is a wholesome custom in some Training Colleges for the critics of a lesson to employ a watch fitted with a seconds-hand, and to note down roughly (it can be done with close attention) the distribution of time between teacher and taught. The results usually astonish those who have not gone through the experience. The desire among teachers to hear their own voice is a vicious habit which needs to be everywhere suppressed, from the University to the Kindergarten. It may be taken that one of the chief reasons why lessons in the Arts are so popular in schools is because the pupils have a chance of doing something for themselves, instead of listening for ever to the familiar voice from the desk.

A German teacher many years ago[1] was impressed by the need for making children more helpful to one another, and for the teacher to restrain himself from over-much teaching. He accordingly practised a plan in his village school, by which in each class the abler pupils, at the close of each Section, helped the more backward ones. He was careful,

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give the answer. If, on the contrary, he calls on some one to answer *before* he offers the question, he is perhaps discouraging the rest of the class. But little points of this kind are matters of elementary common-sense.

[1] *Der Wechselseitige Unterricht* (*nicht* Bell-Lancastersche Methode): die Vollendung des Elementar-unterrichts, von Ludwig Wangemann (L. Garcke, Merseburg, 1851).

even in the title of the book in which he describes his plan, not to let it be confused with the English monitorial system, but he claimed that his plan overcame some of the economic difficulties which the English monitorial system tries to overcome with so little success.

He found that his pupils needed far more practice in the elementary branches than was commonly supplied, and that this could best be supplied by what he named *Wechselseitiger Unterricht*. The teacher would go through a lesson with the whole class, as in other schools, but when the final step was reached (say of Application or Practice, to use the technical terms of this volume), the class would be divided into groups: a more advanced pupil taking charge of one or more backward pupils; doing his own work first, but afterwards correcting or helping them to cover the same ground. He held that this was not only an economy of his labour, since he could spare part of his energy to attend to an entirely different class, but that it was a positive advantage to the elder pupils to be compelled to practise and perfect their knowledge on every side by adjusting it to the standpoint of a more stupid mind. The advantage in the sphere of character-training can be easily discerned.

Probably similar experiments have been made in other countries: something similar is found, *e.g.*, in Kindergarten and Infant Schools. The plan is at least worth noticing, more especially as the author expounds the system on a proper theoretic basis.

We have to bear in mind that our current plans of arranging the work of a class-room are, like all the teacher's work, very conservative, holding closely by their marks of origin (see p. 380, above). The position of teacher, posted at his desk, and pupils, in rows of benches before him, is a tradition from the days when the teacher was a professor or a preacher. His function is now discerned to be something quite different—he is merely the guide of a group of pupils engaged in a common study. If the desk can be shifted and the benches rearranged, it may prove easy for him to break wholly with the old tradition, and recognise that proposals such as this of *Wechselseitiger Unterricht* have much in their favour.

§ 9. *The Care of backward Pupils.*—Edward Thring's name as a teacher will be remembered, not so much because he made Uppingham and Borth, but, as he himself desired, for his firm grip of a few great principles. One of these, which needs again to be reiterated, is the teacher's duty towards those who, in the eyes of the world, will never bring him credit. We need not here repeat his doctrine, for his life, or writings,[1] should be read by every one who is willing to sit at the feet of a master. Even his mistakes and faults of character seem to emphasise more clearly the maxims he taught. But a chapter on Class Management ought to reassert the claim that every pupil makes for equal treatment, and to indicate how some of the difficulties of the situation can be overcome.

(*a*) In this matter the large school possesses a great advantage, if it chooses to benefit thereby. The backward pupil is often a distinct mental type: he needs slow, patient teaching: very often he needs quite a different curriculum from those who are more forward. Hence a large school may profit by its numbers to group pupils of the same type together. Instead of establishing two exactly "parallel" Forms, in which pupils of all types are found mixed together, it is surely fairer to all that the heavier, less intellectual sort should be grouped by themselves: they will not then be continually outrun by the nimble minds of little boys; while those nimble minds, being also grouped together, will not be kept back to suit the slow pace of dullards. The distinction between two Forms of this type need not be emphasised in the school itself to the disadvantage of either. There are schools where certain classes are avowedly named as for blockheads, and the members of it reckoned as a disgrace to the community: such a scandal should be impossible. But it is no discredit to a school to sort out its pupils according to their needs, in a spirit, not of contempt, but of consideration for the talents and needs of all alike.

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[1] *Biography of Edward Thring*, in two volumes, by G. R. Parkin (Macmillan, 1898). *A Memory of Edward Thring*, by J. R. Skrine (Macmillan, 1889).

(*b*) This proposal, however, only gets over one fringe of the difficulty. Classes tend to be very uneven, except in the largest schools: how shall the teacher avoid the temptation of conducting lessons at the pace of the ablest? The temptation is, indeed, great, for the able pupil not only gains credit to teacher and class (this is at best a vulgar plea), but he is thought likely to be of more service finally to mankind than the stupid fellow who learns so little. This, too, is a poor argument at bottom, but it has great influence: "To him that hath" is the text, where "Unto this last" would be better gospel.

No universal rule can be proposed, but many devices can be found by a teacher who cares to think over the problem. In Mathematics it is often found possible to subdivide a class: one portion can be commencing Algebra, while another delays the commencement of Algebra because the Arithmetic needs more attention.

In many large Secondary Schools, the Forms are broken up into special "Sets" for Mathematics, and again into Sets for Modern Languages or Science. In this way the necessity for subdivisions of a class is avoided. But the system has many disadvantages (see above, p. 124).

Even if this absolute separation of the weak from the strong is not attempted, it may always be possible to provide additional practice for the latter, which will keep their minds active, while the teacher devotes his principal attention to the weaker pupils during an extra lesson, going over the same ground. But, where any special arrangement is impossible, the teacher can do much by giving fair play to backward pupils in all the business of the class-room. They will have plenty of questions addressed to them, but these will be the easiest: the clever fellows will be set to discover new routes, these will be set to follow, to revise. Thus, when a new Section has been got well in hand, and is continued after an interruption, the teacher will turn to the backward pupils and get from them the Aim, and a summary of what has gone before: then he may turn to the abler ones for help in developing the next topic. The teacher has to see to it that the whole class, however much the individuals differ in ability, *feel themselves to be sharers in a common pursuit.* The class is a corporate body, and, even if we reject any plan such as that described in *Wechselseitiger Unterricht*, we have to secure the same sense of mutual help. The abler pupils are not "marking time," if they are genuinely interested in promoting the complete mastery of a topic by the whole class. This is socialism in the class-room in place of individualism: brotherhood and comradeship replacing competition for marks. Marks, too, may have a proper place in class-management, for the individual, especially before adult life, is unable to rise to the full practice of the corporate virtues: but they have usurped the entire field in many schools, and it is necessary to assert a higher motive for industry.

§ 10. *Length of Periods for Lessons.*—The class teacher often finds that the length of the "hour," *i.e.*, lesson period, assigned for a branch, is too long—especially in the case of younger pupils.

It is impossible in a large school for the length of periods to be adjusted so as to meet the needs of all classes. Hence a class, from this cause, may show signs of fatigue long before the bell rings for change of lessons. Or the weather is sultry; or some other exceptional occurrence tends to make it difficult to retain the attention of the class for long in an oral lesson. If the teacher is convinced that the cause of the inattention is not in the lesson itself, and not due to the infectious example of the few troublesome members to whom we have referred above, he had better drop the oral lesson altogether, instead of dragging on, with pains and penalties, to the end. A minute or two of gymnastic exercise, with windows and doors open, will freshen up the class for a few minutes, but will *not* enable them to renew their attention to the same topic which has been found wearisome. The attention should be diverted to some new set of nerves: a writing-exercise will be suitable, or silent reading, or drawing—some activity which will afford a change. Many teachers practise such methods without any direction, but others seem inclined to blame the Time Table for difficulties in management, which they might readily overcome by observing more closely the signs of mental fatigue, and using their wits to relieve the situation. It is very easy for a teacher to become so habituated to class-room existence, as to forget that the habit of sitting at desks, and attending for hour after hour, *goes against the grain* with young, active, human beings, and can only be gradually acquired.

§ 11. *Home Lessons.*—We noted above (Chap. VIII, p. 205) that Home Lessons may form a regular part of the school programme as soon as the pupil is at all able to "go alone," using apparatus and material apart from the immediate oversight of a teacher. The importance of self-activity as a factor in education must be always kept in view as the main argument for these lessons, although the economic plea to which we have referred will naturally appeal more to those who manage schools. The Home Lesson convinces the pupil that the pursuits of school are to be regarded as a personal business, in which he must work out his own salvation. Many children are inclined, especially in Primary Schools, to regard the teacher as a kind of shopman who dispenses his wares during certain hours: they, willingly or unwillingly, sit to receive the same. The Home Lessons tend to adjust the point of view, and to compel the child to rank school-*work* as one of the principal factors in his own daily life.

It goes further than this: it brings the parent round to the same point of view. The success of Home Lessons depends largely upon the influence of the home, and upon the arrangements made by parents to see that their children have leisure and opportunity to do the work.

No doubt parents in humble surroundings, and with means so small that they require their children's aid as wage-earners,[1] are often unwilling to let boys and girls in Primary Schools do Home Lessons: hence the small part that such lessons play in the system of the Primary School. But this is surely a misfortune. If the general argument in favour of Home Lessons be sound, then it is just as necessary in one type of school (when children have reached the fit age —see Chap. VIII) as in another. The establishment of Lending Libraries in Primary Schools has done something to encourage intellectual life in the home; but it does not go far, especially as this reading is an intellectual luxury, rather than plain, solid food. While, no doubt, many parents in such homes would resent the demand for a regular system of such lessons, others would welcome it; for it would be hard to prove that, on the whole, the homes of poverty are *more hostile* to the entrance of culture than the homes of the wealthy. It seems unfair that those parents in humble life who would gladly share in the culture of the school are deprived of the pleasure and duty involved in Home Lessons because others would decline!

Unfortunately, Home Lessons, in more than one country, have been converted from a blessing into an abuse. The pupil, after some five hours of steady intellectual strain during the day, is expected to spend several hours more on the same studies at home,[1] and the results, where the system is carried to excess, are now become a commonplace of educational controversy. The medical profession is waging in many neighbourhoods an open war with teachers on this very account.[2]

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[1] See *Home Office Report* referred to on p. 208, above.

Hence, the following rules may be suggested, in order to check the abuses, and encourage the interest of the home in the work.

(*a*) The amount of time which the school expects each class to spend on the prescribed lessons should be clearly stated, commencing with half-an-hour, or even less, at the start, and extending to two hours with the oldest pupils of a Secondary School. It should be made a point of honour with the staff not to transgress this rule.

After all, there are other pursuits in life besides school. An active home should provide many congenial interests quite apart from school. True, these interests find freer scope for exercise in the vacations, which, except under this plea, are longer than is needful in Secondary Schools; but during term also a boy or girl ought to find time for the simple, wholesome pleasures of a family and social circle, quite distinct from the social and intellectual life of the school, absorbing as these also can become in good day schools.

(*b*) Bright pupils will be able in the time to do more than the average members of a class. For these, voluntary work (School Library Reading, Mathematical Problems, Handicrafts) should always be available, although in many cases these ought to be strictly voluntary, since the bright pupil often possesses a highly nervous organisation, which cannot stand much intellectual strain.

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[1] See paper on German Schools in Rooper's *School and Home* (above referred to). Here he found, even in a Higher Elementary School (p. 157), a boy of fourteen having five or more Home Lessons to prepare after a long day at school! Similar statements could be made about a number of well-known English schools.

[2] For a full discussion from the medical standpoint, see Dr. Dukes's *Health at School*, pp. 200-250 (Longmans, 1894). Dr. Dukes, physician to Rugby School, is an extremist, but he states his case clearly.

Teachers whose experience of tradition carries them back to the seventies will recall how the unexampled zeal of masters in certain Public Schools led them to place burdens grievous to be borne upon their pupils. The present writer received the following advice as to Home Lessons from his Headmaster on the first day when he set them : "Always set more than your boys can do—and *exact it all!* For they are idle by nature, and will never do all they might!"

(*c*) These additional pursuits ought, however, to be obligatory on pupils who are not bright, but who are considerably above the average age of their class. If the time expected from a class whose average age is thirteen be one hour for Home Lessons, then a boy of fifteen still in such a class should be required to spend another hour on the extra home lessons.

(*d*) The ground to be covered in the Home Lesson should be clearly indicated : if possible, written by the pupil in a diary especially provided for the purpose, so that those at home can at once see what is prescribed, and can take an interest in it if they wish.

(*e*) While this interest is to be by all means encouraged, the system will be abused if friends at home do the work for the pupil. Emphasis must be laid on the special aim of the Home Lesson—to train the worker in habits of self-activity and initiative.

(*f*) When once prescribed, the work must be "exacted," *i.e.*, it must be heard, examined, corrected, as early as possible on the following day, and marks assigned for it; penalties imposed for gross neglect.

In some schools (especially in Primary Schools, as we have seen above), penalties for neglect are out of the question. In such cases, the teacher might do much by encouragement: the lack of power to enforce the work should be no ground for despair as to success with the system, among those who do the lessons of their own free will. Indeed, it is obvious that such will benefit far more than they would under a compulsory system enforced by penalties.

The advantage of incorporating Home Lessons as a compulsory part of the school system is that it is possible thereby to cover more ground in teaching. Unless the teacher can be fairly certain that the exercise he has prescribed has been attempted by all the class, he cannot wisely proceed to a new topic. Home Lessons, except on a compulsory system, have to be confined to the voluntary exercises referred to above.

(*g*) When a pupil repeatedly fails to do what is prescribed, the first appeal must be made to the parent. He should already (if encouraged to do so by the attitude of the school) have informed the teacher if any cause had unexpectedly intervened to prevent the work being done, and, when appealed to, he should be able to declare whether the prescribed time has been diligently spent at the work.

Sometimes a parent allows an anxious, slow child to work at Home Lessons till late at night, repeatedly. Nature cannot be so outraged with impunity. It is a parent's plain duty to stop such work at least an hour before bed-time, in spite of protests either from teacher or child. Fortunately, there are some parents, even in these days, who are courageous enough to disobey their children![1]

(*h*) A final difficulty, which concerns the teacher alone, is, how to incorporate Home work with the Course of Study pursued in the class-room.[2] As a business arrangement, the time allowed for each evening must be distributed fairly between the various branches at the commencement of the session, and the teacher cannot therefore set a Home lesson in one particular branch just when he pleases.

On Monday evening, for example, the teacher of the Humanities has to set a written Essay or Composition for his Form. But he has had to break off his afternoon lesson in the middle of a Presentation: he would be glad to set an Essay at the *end* of this Section, but he cannot well interrupt the work at this point, for the pupils are not equipped to write the Essay. No help can be found for such difficulties beyond common-sense and experience. The teacher needs to look ahead over his week's programme, and be ready in good time with an alternative plan, if circumstances have intervened to alter his original plan.

This much is clear—Home Lessons can seldom, except with advanced pupils, take the place of the Second and Third Steps (Chaps. XIII and XV). These require the teacher's guidance, and they involve a greater mental strain than the others. Occasionally, no doubt, as we have suggested in the Simon de Montfort lessons, a piece of Reading may be set in order to gain ideas on a portion of a Presentation which is already well in hand, but care needs to be taken to prevent the pupil being required to make bricks without straw.

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[1] The present writer has found it possible to get over many difficulties in these matters by making opportunities for interchange of views between parents and staff (*vide The School World*, January, 1901, "The Parent and the School").

[2] See p. 308, above.

The Home Lesson is undertaken at a time when the mind is unfit for the highest forms of thought. The pupil can with pleasure recall, combine, exercise what has already been pursued earlier in the day, but it is a hardship to require him to enter upon new ground.

By way of precaution, a teacher, when commencing with every new class, even though he be a man of ripe experience, is well advised to experiment *in class* with work similar to that which he proposes to set for Home Exercises, in order to test, by precise measurement, the amount of time a given piece of work will take his pupils on the average, and also to note those who are exceptional in the amount they can do in a given time. He may be quite certain that what is done in the same amount of time in the evening, and apart from his oversight, will not be better, either in quality or quantity, than that produced during his experiment. Indeed, most pupils need a little training in the art of working alone. The time spent in school should under no conditions be wholly occupied in oral lessons: a fair amount of time should be devoted to doing exercises (in Humanities and Science, as well as in Mathematics) similar in nature to those prescribed for Home Lessons. During such exercises the teacher can watch the methods on which a pupil works when left to his own devices, and can picture the way in which he goes about the same at home.

§ 11.—Experience seems to suggest a special difficulty in Class Management in schools which receive pupils from a variety of other schools. We noticed in Chapter IV that schools in modern times have become highly differentiated into types, and each of these types tends to separate itself in discipline and tone from the rest. The result is that a pupil from one type of school often finds himself very much out of touch with the atmosphere of a new school of another type, when he first enters it. And the teacher is often inclined to emphasise these differences, and to complain that the newcomer "cannot behave himself," or "has learnt nothing," or "needs to be taught to obey," because he exhibits ways differing from the type prevailing about him in his new environment. The teacher often goes further, and, in his ignorance of what goes on in education outside the walls of his room, he lays the blame on these other types of school, and declares that they are inefficient—because, forsooth, they do not prepare their pupils to fit exactly into *his* mould! For example, it is certainly awkward at first for an infant from a good Kindergarten to put on the stricter etiquette of the Secondary School. He has a familiar air of friendly comradeship and proprietorship which may land him into odd kinds of trouble if his new teacher does not understand the situation.

Now that differentiation of type has become so important a feature in the national organisation of education, it is necessary for teachers to gain some acquaintance with all the chief types of school, so as to be prepared to smooth the way on the rungs of the educational ladder. The principles of education can be worked out to fine issues in many forms, and it is a fatal narrowness for a teacher to despise this or that type because it lacks some of the superficial qualities which adorn his own. The transference of a few pupils from one type of school to another should not be counted as a calamity, but as a positive blessing, for it saves the school society from its besetting danger—narrowness and self-conceit.

APPENDIX

Students can now consult *The Fielden Demonstration School Record* (Manchester University Press, 1913) where more developed efforts are exhibited, by a number of colleagues co-operating to produce a united scheme of pursuits, as in II below.

SPECIMEN COURSES OF STUDY AND NOTES OF LESSONS REFERRED TO IN THE TEXT

I. NOTES FROM LESSONS ON ROBINSON CRUSOE

Based on work done by Mrs. J. J. Findlay with a class of children aged seven to nine, in the Demonstration School, attached to the University College Training Department, Cardiff. Fuchs, *Robinson als Stoff eines erziehenden Unterrichts* (H. Haacke, Leipzig, 1893), was used to a limited extent as a groundwork.

A. The Sections, Week by Week.

I.	Week.	Robinson at Home.
II.	,,	Robinson's First Journey.
III.	,,	The Wreck.
IV.	,,	The Island.
V.	,,	Robinson's Visits to the Wreck.
VI.	,,	How Robinson managed his Home.
VII.	,,	His Illness.
VIII.	,,	The Cornfield.
IX.	,,	The Harvest.
X.	,,	Travels and Discoveries.
XI.	,,	Christmas on the Island (taken just before the Christmas holidays).
XII.	,,	Robinson as Artisan.
XIII.	,,	Robinson as Cook.
XIV.	,,	Robinson as Tailor.
XV.	,,	Robinson as Shipbuilder.
XVI.	,,	A Great Surprise :—Savages on the Island !
XVII.	,,	Teaching a Savage.
XVIII.	,,	The Return of the Savages.
XIX.	,,	A Happy Meeting.
XX.	,,	Departure from the Island.
XXI.	,,	Home after many Years !

The above provided material for about two terms, and served as a centre for all the other pursuits of the class, thus :—

B. SECTION XII. IN DETAIL: ROBINSON AS AN ARTISAN.

Step I.—We have now seen how Robinson managed to settle down in the island and to provide himself with shelter and food. There were, however, a great many things to be provided before he could live as a civilised man in the comfort of his own home. Tell me some of the things that he would have to provide—things which he had not been able to bring from the ship. (The class suggest all sorts of articles of domestic use.) Now how could Robinson get these? He must either make them, or go without! But what was his calling? He was a sailor, and had never learnt to make things.

But now he was obliged to set about these tasks, and teach himself as best he could. We call a man who makes things with his hands *an artisan*, and we are now to see (*Aim*) How Robinson got on as an artisan.

Step II.—Our book tells us in different parts how Robinson learnt to make the various things he needed. First of all we will read[1] how he makes a Table and a Chair. Then other passages :—Basket-making, Pots and pans, etc. (Reading here follows, and occupies one or more lessons—*vide* C. below.)

After the reading, some "reflection"[2] is appropriate. Robinson seems to be a very different person from the idle, silly fellow who ran away from home at the beginning of the story. His troubles had "made a man" of him, and he is now *patient* and *industrious*.

We notice, too, how often Robinson gets tired out with hard work, and yet he seems to like it. As artisan he had to put forth all his strength for many hours at a time, day after day, in order to get even a chair or a basket properly made. This means that he showed great *endurance* as well as patience and industry.

And he was very different in another way from what he used to be. He tells us how he had to *plan* and think a great deal as to the best way of doing things. An artisan must be clever with his head, and be able to think beforehand how to set about his work.

Step III. A. *Comparison.*—(1) Do we have to work like Robinson had to do with our hands? Many boys and girls have to work at home and help their fathers and mothers. (N.B.—It is evident that the treatment of this Step will depend wholly upon the status of the teacher and his pupils. Cf. Chap. IX, § 7.)

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[1] There are two or three simplified editions of De Foe's work which serve this purpose.

[2] See Chap. XII, p. 319.

(2) In schools where religious knowledge is made use of, Mark vi. 3 or Acts xviii. 3 serve as suggestive parallels.

Step III. B. *Formulation.*—The pupils are too young for abstract thought, even as to the duty of an artisan, but the general ideas attached to Robinson's patience, industry, endurance, and intelligence may well be expressed in classic form by proverbs or the like: "In the sweat of thy face thou shalt eat bread." "Work while it is called to-day."

But the *Song of the Carpenter* (Group III. below) serves as a more appropriate mode of emphasizing the "lesson" of this story.

Step IV.—(i) Read other examples of Robinson's activity as an artisan.

(ii) We shall find other ways in which he had to pursue callings for which he had had no training when he was younger. Other applications must be found in correlation with the rest of the week's pursuits. The reader who compares these notes with the treatment of Robinson in Fuchs, and in Rein's *Zweites Schuljahr* will observe certain differences. These latter make a far greater demand upon the child's attention, especially in the Vth Step. To us their Application (*Anwendung*) seems to be mainly concerned with subjective reflection upon personal conduct—a kind of mental activity which is indeed necessary for the development of the moral nature, but which can scarcely be achieved with success in the publicity of the class-room.

C. CORRELATED STUDIES CONSIDERED PARTLY IN CONNECTION WITH SECTION XII, PARTLY WITH OTHER SECTIONS.

Group I.: *Geography.*—The class make a model of the Island,[1] using a large, flat, wooden tray, several feet square if room can be found for it. And although the class is too young to study the Robinson's voyages in detail, those children who care for it may be encouraged to hunt up the names in their Atlas.

Again, the beginnings of local Geography are readily associated with Robinson's settlement in his two homes. The class measure roughly the distances, and make plans of their school and the roads near to it.

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[1] See Adams, *The Herbartian Psychology*, for an interesting discussion of Defoe's ideas about the Island.

Group II.—The correlation with Nature Study, Section by Section, is so obvious that we need not go into detail. Thus in Section XI we may select Timber and Tools. In earlier Sections, corn and corn growing will have provided material to occupy several weeks. The general idea in the Nature lessons is associated with that of the manual work in Group VI—study of life under primitive conditions. The charm, and special value, of Robinson lies in the display of these conditions in a form suited to the appreciation of a modern child: the gulf between primitive and modern man is bridged over by Defoe in masterly fashion.

Groups III, IV, and V.—See pp. 161–170, above. The Kindergarten literature provides abundant material for songs. Art work in clay and colour lies to hand from the Nature lessons.

Group VI. *Manual Work.*—Two courses can be followed. Either some single occupation, in wood or weaving or cooking, can be selected and made into a "Course" extending over a term, or the class may be regarded as too young to take up a continuous course, and may therefore do a little at a variety of exercises. The latter presents the difficulty of requiring new tools from week to week, and also it leads to dissatisfaction, since no such exercise can produce tolerable results unless repeated practice is permitted. On the other hand, the children are too young to gain benefit from close attention to any art of production. Perhaps a course of six weeks devoted to one art, such as gardening, followed by another six weeks devoted to weaving or basket work, and so on, would be a useful compromise (comp. pp. 172, 203, etc., above).

II. SCHEME OF STUDIES IN THE HUMANITIES

N.B.—The cycle of Bible Study, which comprises a continuous Course extending over several years, is not inserted here.

Mainly from *The Calendar of the Cardiff Intermediate School for Boys*, 1901.

Note.—In all Forms a Reader or other text-book is employed, but these are not mentioned unless they contain special features of interest.

A. History and Literature.

Prepared by Messrs. Frazer, Leech, and Deeley, and other members of the staff.

Lower II. (average age 10½).—The work of the year is divided among the following three topics: (*a*) The Story of the Odyssey and other Greek Legends (Charles Lamb's *Tales of Ulysses*, etc.). (*b*) Legends and History of South-East Wales until the coming of the English. (*c*) Early English History to the coming of King Alfred.

(As this Form contains a number of new boys each term, the syllabus is only treated as introductory to the regular course which commences in the Upper II.)

UPPER II. (average age 11½).—General subject—*Britain and early England up to Magna Charta*, divided into three main sections:—

(i.) Early Britain and the Britons. Special connection with local history. The Roman occupation. Roman remains—effects on later times.

(ii.) The Coming of the English and the Conquest of Britain. The English Kingdoms. Introduction of Christianity. The union of the smaller Kingdoms.

(iii.) King Alfred and the Danes.
Reading for (ii.) and (iii.): *Hereward the Wake* (C. Kingsley).

(iv.) The Norman Conquest. The Crusades. Magna Charta. Chivalry. Authors: *The Talisman* (Sir W. Scott), *Ivanhoe* (Sir W. Scott). Other Literature is selected from poems connected with the Nature Studies (*The Seasons*, etc.)

LOWER III. AND UPPER III. (average age 13).—*The Age of Chivalry*, divided as follows into sections:—

(i.) The story of the 13th century—a century of great works and great aims. Henry III. without energy or great aims; hence need of a stronger king; duel between the king and his foreign favourites and the barons: ultimately Civil War. Simon de Montfort's life and work. A century also of a great religious movement: Franciscans and Dominicans.
Reading book: Hutton's *Simon de Montfort* (D. Nutt).[1]

(ii.) Conquest of Wales. Edward I. a great *English* king: his consolidating policy. Life of Llewelyn and his defeat. Statute of Rhuddlan.
Extracts from Arnold's *Story of Wales*.

(iii.) Making of Scotland, a story of Scottish patriotism. The fight for the Crown after the death of Alexander III. John Balliol, the vassal of Edward I. Sir William Wallace. Robert Bruce and Edward II. Bannockburn and Treaty of Northampton.
Reading book: Scott's *Tales of a Grandfather*.

(iv.) Ruin of France. Previous story of relations between England and France. Beginning of Hundred Years' War. Real reasons for war: Gascony and its trade, Scotland and its independence. Success of English. Why? Crecy and Poitiers. English patriotism and poetry.

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[1] See pp. 285 to 295, above.

Reading books: Frazer's *English History from Contemporary Writers*, 1307 to 1399. Conan Doyle's *The White Company*. Chaucer's Prologue to the *Canterbury Tales* (Stead's *Penny Poets*).

[The work of these Forms in *French* for the year is correlated largely with this Section—*vide* Mr. Leech's Reader (to be published shortly, A. and C. Black), *Voyage d'une famille anglaise en France*. (The actors in this story visit Creçy, Rouen, Paris, etc.)]

(v.) *a.* Peasants' Revolt. Causes: Black Death and what it meant; Teaching of John Wycliffe; Translation of the Bible; the Poll Tax. Results of revolt.

b. Deposition of Richard II., who aimed at being an irresponsible ruler.

Reading book: Selections from Shakespeare's *Richard II.*

(vi.) Owen Glendower: a story of Welsh patriotism.[1]

Extracts from Arnold's *Story of Wales.*

(vii.) Battle of Agincourt and story of Henry V.'s reign. Reason why he began again the war after comparative peace during reigns of Richard II. and Henry IV. due to troubles at home.

Reading book: Shakespeare's *Henry V.*

(viii.) Story of disastrous War—the French successes and the Wars of the Roses: the penalty for the ambition of the English nation in France and for accepting at home a usurping Lancastrian dynasty. The "suicide" of the great nobles and the preparation for the "benevolent" despotism of the Tudors.

Extracts from Church's *Warwick the King-maker.*

Reading book: Stevenson's *Black Arrow.*

LOWER IV. (average age 14).—*The Age of Discovery* (1485 to 1603), treated in sections as follows:—

(i.) Travels and Voyages. (*a*) Columbus; (*b*) The Cabots, Gama, Vespucci; (*c*) Cortez, Magellan, Pizarro; (*d*) English adventurers, Drake, Frobisher, etc.

Literature: Tennyson's *Columbus*; Hakluyt's *Voyages.*

Geography: Spain and the New World, studied in connection with the narratives, and continued later in the year with Drake, etc.

(ii.) The Revival of Learning.—The earlier period. The revival in Italy, Germany, France. Effects in England, especially on the Language and the Literature. The English scholars: Caxton, Colet, More.

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[1] Introduced especially because the school is in Wales.

(iii.) The Reformation and the development of National Churches.—(*a*) The Church in relation to the Renascence; Luther. (*b*) The earlier English Protestants (cf. va. in III. Form Syllabus). (*d*) Henry VIII. and Wolsey. (*e*) The suppression of the monasteries. (*f*) Cranmer and Edward VI. (*g*) The Marian Reaction and the Martyrs. (*h*) Elizabeth's national position.

Literature for (ii.) and (iii.): Shakespeare's *Henry VIII.*, and Form Library (see p. 193, above).

(iv.) The relations between England and Scotland.—(*a*) Sequel to (iii.) in III. Form Syllabus. Flodden and Pinkie. (*b*) The Scoto-French alliance. (*c*) The Reformation in Scotland. (*d*) Mary Stuart and Elizabeth. (*e*) The House of Stuart in England.

Literature: Scott's *Tales of a Grandfather.*

(v.) Wales and Ireland.

1. The *Incorporation* of Wales. History of Glamorgan from Tudor[1] Times.
2. The *Conquest* of Ireland. Conciliation under Henry VIII. Colonisation under Mary. Conquest and Settlement under Elizabeth.

(vi.) Elizabeth's Foreign Policy.—Proposals of marriage. The Huguenots. Burleigh, Walsingham, and the Council.

Literature for (iv.), (v.), and (vi.): Scott's *Kenilworth.*

(vii.) England and the Sovereignty of the Seas.—The Sea-dogs. Colonisation. The Armada.

Literature: Kingsley's *Westward Ho!*

(viii.) Shakespeare and the great writers.

UPPER IV. (average age 14½).—*From the Revolution to Waterloo.* The treatment comprises the following sections:—

(i.) The Revolution in England, Scotland, and Ireland; its general effects on the relations of the Crown to (*a*) Parliament, (*b*) the Army, (*c*) the Church.

The establishment of the Supremacy of the Commons and Government by Ministry.

(ii.) William's position in Europe; its effect on English policy, and the lasting result—the balance of power.

(iii.) The Age of Anne.—Marlborough, Harley, St. John. The Act of Settlement. The Act of Union.

(iv.) Walpole and the long peace; material prosperity; consequent failure of Stuart adventures.

(v.) The Religious and Social revival. Wesley, Whitfield, Howard.

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[1] Introduced especially because the school is in Wales.

(vi.) Chatham and Imperialism. India and Canada. Clive and Wolfe. The American War of Independence, Washington,

(vii.) The younger Pitt. Commercial progress and Social reform.

(viii.) The French Revolution.

(*a*) The English point of view. Pitt, Burke, Fox.
(*b*) Napoleon and French aggression.
(*c*) Nelson and British sea-power.
(*d*) Wellington and the Settlement.
(*e*) The effects of the war on England.

(ix.) The state of Ireland. The Union. Catholic Emancipation.

Literature: Lord Macaulay's Essays on Clive and Chatham are the recognised reading-books. There is besides a varied library—chiefly of historical fiction—covering the whole period. Poems dealing with striking episodes of the time serve as repetition and include Southey's *Blenheim*, Campbell's *Hohenlinden*, Wolfe's *Burial of Sir John Moore*, Byron's *Waterloo*, etc., etc.

Geography: The British Empire (except Australasia) in correlation with the history of its expansion.

The study of French in this Form has been correlated with the above, by the selection of reading material dealing with the Court of Louis XVI. and the French Revolution (using Kühn's *Lesebuch für Franzosischen Unterricht*).

LOWER V. (average age 15).—A review of Ancient History, comprising the following sections (offered[1] for the Junior Certificate Examination of the Central Welsh Board):—

(*a*) Greek History, with special reference to the Persian Wars, studied in close connection with the following Maps:—The Ancient World of the East; Greece and the West of Asia Minor; The States of Greece; The Empire of Alexander. Fyffe's *Primer of Greek History* is used as a text-book, supplemented by the Historical Books of the Bible, Grote's *History of Greece* (for special topics), *Epochs of Ancient History*, and other books in the Form Library.

(*b*) Roman History, with especial reference to the life of Cæsar; Maps of Italy (Rome and the surrounding tribes); Rome and Carthage, B.C. 219; Roman Empire in the time of Augustus. Creighton's *Primer of Roman History* as a text-book, supplemented by the *Epochs of Ancient History*, etc., as above.

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[1] As alternative scheme, see p. 236 above.

(c) Celtic Britain to the History of King Arthur (Map of Britain during the English Conquest).

Literature: These sections are correlated with the following studies, offered as a Literature subject for the Central Welsh Board Junior Certificate:—Byron: *Childe Harold*, Canto II., st. 1 to 15, 73 to end; *Isles of Greece; Sennacherib;* Shakespeare: *Julius Cæsar*, Act III.; Tennyson: *Œnone, Ulysses, Amphion, Morte d'Arthur, Sir Galahad.*

Upper V. (average age 16½).—English History and Language as prescribed in the Matriculation Syllabus of the London and Welsh Universities.

B. **Geography**, as part of the Humanities, has followed the course of Historical Study as above.

Lower II.—Local Geography, commencing with the school premises.

Upper II.—From Wales to England and Ireland.

III.—Scotland, France, Spain.

Lower IV.—The New World (especially America).

Upper IV.—The British Empire in the order of its Discovery (especially America).

Lower V.—Ancient Geography.

III. SCHEME OF STUDY IN NATURAL SCIENCE

(including Physical Geography)

Planned for the same school, but worked out with comments by Mr. A. Abbott, M.A., recently Assistant Master in the school, in an article published in *The School World* (January 1901), which is here reproduced by permission of the Editors.

"In drawing up a syllabus for Natural Science in a Secondary School, it is necessary to consider first the various factors which determine the character and scope of the work to be done. The most important of these are:—

I.—The age and previous training of the boys entering the school.

II.—The length of the school life.

III.—The probable occupation of the boys after leaving school, as indicated by the industries of the district.

IV.—The number of lessons that can be devoted to the subject each week.

One of the most important requirements of any syllabus which is to be followed through a whole school is that it should be continuous, so that each boy, during his school life, may work through a logical sequence of experiments without any abrupt changes or breaks. This does not imply that the same ground should, in no case, be gone over a second time; a more or less empirical knowledge in the earlier stages may well be added to and deepened by further investigations when the mind is more developed.

While the whole syllabus is drawn up with a due regard to continuity, it should be planned in such a way that a boy entering the school in a higher Form than the lowest should be able, from his previous experience, to pick up the thread and work with other boys who have entered the school at an earlier age. This is essential, as a new boy is not, as a rule, placed in a particular Form because of his attainments in science, but is generally judged by the standard he reaches in other subjects. This furnishes an additional reason for a certain amount of repetition in the subjects of the syllabus. It cannot be denied that in many cases the previous training of the new boys does not count for very much, as in most Secondary schools the majority of them are drawn from either elementary or private schools. In the former case, owing to the size of the classes where science is taught at all, it is impossible to have any training for younger boys in practical work (a necessary condition for a successful course of natural science); while in the latter case the accommodation for practical work is often very poor. Exception must be made in the case of boys who have previously been in an Organised Science school, as their instruction in science has usually been sound.

The factor which is least important, except to boys in their last year or two at school, is the probable occupation in after life. If a boy receives a thorough grounding in the principles underlying one branch of science and in accurate scientific methods of thought, he will be able to apply his knowledge later on to other branches without much difficulty.

The most important factor in determining the scope and character of a science syllabus is that of the time that can be spent on the various subjects. In Schools of Science very often as many as six hours a week are allotted to these studies, but in other schools where science is only regarded as one of many subjects, not more than three or four hours can be spent on it, except by boys in the higher Forms who have begun to specialise. Two results follow from this: (1) that only one branch of science can be taken up during the school year, it being obviously impossible to attempt more; (2) that the science master must endeavour to call in the services of his colleagues by correlating his work with theirs, his chief collaborateurs being the teachers of drawing, mathematics, and geography.

The correlation with drawing may be maintained through the lower Forms but it is inadvisable that it should be continued in the middle Forms, as it could then consist merely of outline drawings of apparatus. It seems better to limit it to the representation of the various objects examined during the earlier period when the youngest boys are engaged in nature study. At the beginning of the study of physical science and mathematics the correlation between the teaching of the two subjects is very close, but at a later period the points of actual contact become fewer, mathematics being regarded rather as an instrument than as a cognate subject. Until a boy begins to specialise in some one subject, an acquaintance with elementary algebra and arithmetic will carry him through a great deal of his physical science, always supposing that this is studied experimentally with a view to acquiring a knowledge of principles rather than a facility for working out numerical examples. To justify this assertion, which, it must be remembered, only applies to boys in the middle forms under the age of fifteen, it is necessary to consider the subjects taken up. In physics, measurements of length, area, and volume, elementary mechanics, hydrostatics, and heat are generally regarded as the most suitable for beginners.[1] A knowledge of the four rules and of proportion in arithmetic, with algebra up to simple equations, is necessary for this. For the subject of chemistry an acquaintance with proportion, including percentages, is enough. The subjects of light, electricity, magnetism, and sound are better reserved for subsequent study, though in each subject important laws can be discovered without the aid of any but elementary mathematics. That correlation is possible between experimental science and physical geography is obvious, seeing that such processes as distillation, solution, decantation, and crystallisation, which are carried out in the laboratory on a small scale, are continually going on in nature on a very much larger scale.

The following syllabus has been drawn up for a secondary school of 200 boys, where ten is the entrance age, and seventeen the assumed leaving age. The number of lessons allotted to the subject each week is three, except in the case of a few boys in the highest Forms who intend to take up engineering or some kindred occupation, and naturally spend a great deal more time in the study of physical science. It is found that very few boys enter the school at ten years of age, the lowest class having an average age of about ten and a half. This class is merely preparatory for the next higher, and there are therefore five school years to be devoted to science before specialisation is begun.

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[1] See, for instance, the Syllabus of Elementary Science adopted by the Head Masters' Association.

FIRST YEAR. *Average Age* 11½.

Nature Study.—Boys of this age are unable to undertake the systematic study of either physics or chemistry, and nature study seems to be best fitted to train them in observation, and in such abstract reasoning as they are capable of. They are naturally attracted much more by animate than by inanimate nature. The great difficulty in this subject is the untrustworthiness of the weather, as the study must be, to a very great extent, undertaken out of doors. It is very disappointing to the teacher, when he has prepared a lesson on climbing plants, for instance, to find that the weather is unfit for work out of doors. Another difficulty is the length of time taken by the experiments. If a small boy plants seeds and has to wait for the shoots to appear above the ground, he is inclined to forget all about them in the interval, during which many other things have been occupying his attention.

The discipline is not a very serious matter, as the boys, for work in the garden, are divided into batches of five, each one presided over by a monitor, who is usually keen enough in exercising his privileges. With regard to practical work in school, it is obviously not so easy to arrange matters in this way, as the boys need individual attention and are very young. The difficulty can, in some measure, be obviated by allowing the boys to work in pairs, care being taken in the choice of partners, and by seeing that plenty of work is provided for them. It still, however, remains, to a certain extent, and it is difficult to see any way in which it can, with a limited staff, be got over, since a class, which is not too large for any other subject in the curriculum, cannot be divided in the one subject of natural science.

It is inadvisable to draw up a syllabus in nature study, to which the teacher rigidly adheres, owing to the variable character of our climate, but the following gives an idea of what may be done:—

The School and its Surroundings.—Examination of wood and stone. Of soil and gravel. Comparison of soil of garden with gravel of playground. Time needed for water to disappear from each under varying conditions. Difference between soil on surface and that underneath. Difference between ordinary soil and soil which has been heated.

Connection between Vegetable Life and Soil.—Food of plants. Loosening of soil. Digging. Worms. Frost. Food taken up in liquid state. Plant grown from seed, food being supplied. (Each boy watches his own plant, sketching it and its parts at various stages.)

The Natural Friends and Enemies of Plants.—Worms, bees, various insects, parasites.

Protective mimicry.—Metamorphoses of Insects.

The Weather and Conditions which Influence it.—Construction of weather chart, entries being made daily. Direction of wind, with use of compass. Frost. Depth to which hardness of ground is noticeable. Rainfall, with use of rain gauge.

Temperature, with use of Thermometer.—Barometer.—The atmospheric pressure is marked, though the use of the barometer must at this period be based on empirical knowledge.

The Work done by Rain.—Formation of springs and rivers. The work done by rivers.

Towards the end of the year the measurement of length in the metric system is begun. On these measurements all the work in decimals is based, every example being concrete. After having finished the addition and subtraction of lengths, the boys proceed to the multiplication and division of lengths by whole numbers. They then learn the operations involved in the addition, subtraction, multiplication and division of vulgar fractions, the examples being again concrete, and, at the beginning, based on actual measurements made with a foot rule. It ought to be stated that every boy in the school is provided with a boxwood scale on which both English and metric measures are marked.

SECOND YEAR. *Average Age* 12½.

Boys at this stage have become familiar with the ordinary operations involved in the use of decimals and vulgar fractions, and now continue their vulgar fractions as mathematics, and no longer quite so concretely. In the previous stage they have not learned to multiply or divide decimals by decimals, but have confined themselves to the multiplication and division of *length* by whole numbers. They now go on to the measurement of *area*, beginning with the area of a rectangle. It is easy for them to extend their knowledge of multiplication by whole numbers to multiplication by decimals. Multiplication by decimals less than unity is rendered possible by changing the unit employed from a centimetre, or decimetre, to a metre.

The word 'division' is applied to two distinct operations; first, that of dividing a certain quantity into an exact number of parts; and second, that of finding how many times one quantity is contained in another. The first operation has been learned in the previous year, and the second is now begun, as it involves the division of decimals by decimals.

Concrete examples are easily found. Examples involving the same operation arise from such processes as finding the length of the side of a rectangle, having given the area and the length of the other side. Examples involving all the various rules are derived from determinations of the areas of parallelograms, triangles and polygons, various properties of these figures being found incidentally.

Much of this work is, of course, left to the mathematical master, while the science master continues the study of physical geography begun in the previous year. The following is the syllabus in use, experiments on a small scale in the laboratory being carried out by each boy, as he gains thereby not only a better knowledge of physical geography, but also an acquaintance with the more usual methods of manipulation in chemistry, an acquaintance which will be of use to him in later years.

THE PROPERTIES OF WATER.

Solution of Solids.—A solid dissolved in water spreads through the solution. It does not settle on standing. It can be recovered by evaporation. It passes through the pores of a filter paper. Insoluble substances can be removed by filtration, or by decantation. Drinking water contains solids in solution. River water contains insoluble solids.

Distillation.—The work done by rivers (*a*) in dissolving solids, (*b*) in carrying undissolved solids.

Reasons for saltness of sea, for freshness of rain water, for formation of mudbanks, deltas, &c. Comparison of rivers of Lancashire and Yorkshire, and of those east and west of the Rocky Mountains.

Solution of Gases.—Drinking water contains dissolved air. Estimation of amount.

The Formation of Waves on Water.—The work of the sea. The work done by ice. Forces tending to raise land. Earthquakes. Volcanoes. Coral. Shape of the Earth. Latitude. Longitude. Motions of the earth. Day and night. Seasons. Phases of moon. Eclipses.

Measurement of Time.—Sundial. Water clock (by running water out of burette and noticing time taken for each 5 c. c.). Pendulum.

The Sun.—Examination of white light. Reflection and refraction of light.

THIRD YEAR. *Average Age* 13½.

Boys in this stage have finished their measurements of length and of area. Having found the areas of rectangles, parallelograms, triangles and polygons, they know something about angles, and are therefore prepared to begin geometry. Instead of adopting Euclid, an introductory course has been drawn up which provides a gradual transition to abstract geometry from physical measurements. In comparing two lengths the pupil has always been accustomed to measuring each with a scale, and has therefore adopted the axiom that things equal to the same thing are equal to one another. He has for two years been constantly superposing one length on another. It is therefore natural for him to compare two angles either by the indirect method of placing a protractor, which he makes for himself, on each of them, and finding whether both contain the same number of degrees, or by the direct method, to which he has hitherto been unaccustomed, of placing one angle on the other. Hence he begins his propositions with those capable of proof by super-position. Having thoroughly grasped these, he uses them to prove other propositions. At this point, his geometry becomes more abstract, and the work is left to the teacher of mathematics.

The science master begins now with the area of a circle, and the value of π, and goes on to the estimation of volume.

The rest of the syllabus is as follows:—

The volumes of right prisms, cylinders, spheres, and irregularly shaped bodies. Weighing. Relative density. (Relative density is taken, as the boy has at this period reached proportion in arithmetic.)

It is evident, both in this syllabus and in that for the other years, that great care is necessary in drawing up the whole school routine for each year, and that the teachers of science and mathematics must be in close touch with the work of each other. It has been found, in actual practice, that the quantity of work done can be so regulated that the boys do study cognate parts of science and mathematics at the same time. This arrangement has been greatly facilitated by the division of the staff into committees for the discussion of the curriculum, the mathematical and science masters being on the same committees.

FOURTH YEAR. *Average Age* 14½.

In this year boys are expected to take a public examination, and the work has to be regulated with due regard to the requirements of the examining body.

Syllabus:—

Elementary hydrostatics. Barometer. Boyle's Law.
Elementary mechanics.
Principle of Archimedes.
Elementary heat.

Fifth Year. *Average Age* 15½.

In this stage the subject studied is elementary chemistry, treated more or less according to the so-called 'heuristic' method.

Boys who remain in the school after this begin to specialise, working for the various examinations they are bound to take."

N.B.—In spite of the severe strictures passed by Professor Armstrong, of "heuristic" fame, on some portions of the above syllabus, it may be taken that the general principles underlying it are approved in many Secondary Schools, except perhaps in respect of the necessity for introducing Nature study and physiography as practical science before physics and chemistry are ventured upon.

In succeeding years the chief change will be, to cover the ground more rapidly, and thus to take part of the Course at an earlier age. Correlation with Mathematics will greatly aid this progress.

The next "reform" in good Secondary Schools appears likely to concern itself with mathematics—more particularly in reforms of elementary mathematics as related to the science syllabus. These reforms can only be effected where the teacher of science also teaches mathematics *to the same pupils.* It may be hoped therefore that the Board of Education will cease to encourage the specialist chemist and the specialist physicist in schools, but will urge science masters to teach algebra and arithmetic—and mathematics masters to take up physics. The teachers must be associated if the pupils are to associate these two great groups of knowledge (see pp. 190, 260 above).

IV. A SECTION OUT OF THE ABOVE SYLLABUS; ON BOYLE'S LAW.

Also kindly contributed by Mr. A. Abbott, M.A.

(Part of a Course taken by boys aged 12 to 15.) Previous Sections:—

(1) They had determined the densities of liquids which do

not mix with water, by balancing columns of them against columns of water in a U tube.

2) This led to the measurement of the pressure of the air, *i.e.* to the barometer, which was taken as another case of the U tube, in which a column of mercury is balanced against a column of air, the barometer being of the syphon form.

"Step. I.—You have been learning something about the barometer? What is a barometer? An instrument for measuring the pressure of the air. How great did we find the pressure of the air to be? We found that it was the same as that of a column of mercury 76 cm. high would be on the same area.

Now what would be the *weight* of such a column of mercury on a square centimetre of area? 1033·6 grammes (worked out in previous lesson). This great pressure must have some effect on the layers of air near the ground? Yes, it could compress it into a smaller space. Have you any reasons for supposing that air *can* be compressed? Give me an instance of the volume occupied by a quantity of air being reduced by pressure :—A bicycle tyre : a football bladder. You have compressed the air in your bicycle tyre, but have you *measured* the change in volume produced by a certain pressure? You have not.

Aim.—Then to-day we will measure the changes in the volume of a quantity of air which are produced by altering the pressure upon it.

Step II.—We must first devise a suitable apparatus. We need (1) something to contain the air ; (2) something to compress it.

(1) As we wish to carry out the experiment as accurately as possible, we must have a vessel which will allow us to notice very small changes of volume. Then what shall we use to contain the air? A very *narrow* vessel—a glass tube

(2) How shall we apply a pressure, which we can readily measure, to a quantity of air in a glass tube? You cannot think of a method? Then how have we measured pressures before? You have, for example, measured the pressure of the atmosphere. What substance did we select for the atmosphere to rest upon? Mercury—place in a long narrow tube. Why did we select mercury? Because it has a high density. Let us do the same again, following the example of Robert Boyle, who first carried out this experiment about 250 years ago. He describes his apparatus as follows (Thorpe's *Essays in Historical Chemistry*, p. 20) :—

'We took then a long glass tube, which, by a dexterous hand and the help of a lamp, was in such a manner crooked at the bottom, that the part turned up was almost parallel to the rest of the tube, and the orifice of this shorter leg of the syphon (if I may so call the whole instrument) being hermetically sealed, the length of it was divided into inches (each of which was subdivided into eight parts) by a straight list of paper, which, containing those divisions, was carefully pasted all along it. Then putting in as much quicksilver as served to fill the arch or bended part of the syphon, that the mercury standing in a level might reach in the one leg to the bottom of the divided paper, and just to the same height or horizontal line in the other, we took care, by frequently inclining the tube, so that the air might freely pass from one leg into the other by the side of the mercury (we took, I say, care) that the air at last included in the shorter cylinder was of the same laxity with the rest of the air about it. This done, we began to pour quicksilver into the larger leg of the syphon, which by its weight pressing up that in the shorter leg, did by degrees straighten the included air.'

We will carry out the experiment almost exactly as he did, but using the metric system of measurement instead of the English system of feet and inches, and after pouring into the larger tube successive quantities of mercury, noticing the volume of the air after the addition, as well as the length of the column added. In this way we obtain a series of numbers, which give us (*a*) the pressure applied; (*b*) the volume of the air.

The experiment should of course be undertaken as practical work, in which the pupils not only observe, but share in the operations.

[In an actual experiment carried out by a boy the following numbers were obtained :—

Pressure	*Volume*	$P \times V$
76·3	16·3	1243·69
78·7	15·8	1243·46
81·2	15·2	1234·24
85·8	14·4	1235·52
89·9	13·7	1231·63
94·1	13·2	1242·12
97·9	12·7	1243·35
103·5	12	1242·0
106·5	11·5	1229·75
110·1	11·2	1233·12
114·8	10·7	1238·36
143·4	8·6	1233·34
150·6	8·2	1234·92]

(Up to this point the numbers in the first two columns only have been obtained.)

Step III. A. *Comparison.*—What do you notice at once about these numbers? That as the pressure increases the volume decreases. But we knew that before without carrying out an experiment! Can we not consider the figures more carefully and find some *exact relation* between them?

Consider the first and last pressures, and the first and last volumes observed.

When the pressure is 76·3 cm. the volume is 16·3 cm.,[1] and when the pressure is 150·6 cm. the volume is 8·2 cm.

It is evident that while the pressure has been doubled, the volume has been halved. Let us represent this by an equation.

Let p_1 and p_2 be the pressure, and v_1 and v_2 the volumes; we have then $\frac{p_1}{p_2} = \frac{v_2}{v_1}$, or $p_1 v_1 = p_2 v_2$.

We can easily find out whether it is true for all the numbers obtained. Find the product of the pressure by the corresponding volume in each case. [The pupils obtain the numbers given in the third column, and see at once that they are nearly the same, whatever be the pressure applied.]

Step III. B. *Formulation.*—What is our conclusion? When air is compressed, its volume changes in such a way that the product of the volume and the pressure is constant: or, if p_1, p_2, p_3, &c., represent the pressures, and v_1, v_2, v_3, &c., the corresponding volumes—

$$p_1 \times v_1 = p_2 \times v_2 = p_3 \times v_3 = \&c.$$

We have gained this result by using mercury to compress the air; if we had other convenient apparatus and materials you would find that the same law holds good for all kinds of pressure upon air.

It will be interesting to see now whether our conclusion is the same as that arrived at by Boyle. He did not measure the pressure and volume after each small addition of mercury as we have done, but he describes the result he obtained as follows:—'Continuing this pouring in of quicksilver till the air in the shorter leg was by condensation reduced to take up but half the space it possessed (I say possessed, not filled) before, we cast our eyes upon the longer leg of the glass, upon which we likewise pasted a list of paper carefully divided into inches and parts, and we observed, not without delight and satisfaction, that the quicksilver in that longer part of the tube was 29 inches higher than the other.'

---

[1] It has been pointed out in previous Sections that when we express a volume in cm. we are giving the length of a cylinder whose diameter is that of the tube.

In this experiment, he found that in order to halve the volume he had to double the pressure by adding enough mercury to make a column equal to the barometric height. This conclusion agrees exactly with ours.

Entry is now made by each pupil in his note-book.

(1) Sketch of apparatus and method of experiment.
(2) List of figures obtained.
(3) Formula.
(4) The same expressed in words as above.

Step IV.—*a.* Draw a curve representing the numbers obtained, plotting volumes along the horizontal line, and pressures along the vertical line.

b. Work out the following examples :—

(1) Mercury is poured into a U tube which has one end closed. By inclining the tube several times the mercury is brought to the same level in both limbs. It is then found that the length of the column of air is 11 cm. How much mercury must be poured into the other limb to reduce it to (1) 9 cm., (2) 8·5 cm., (3) 7 cm.?

The barometer stands at 76 cm.

(2) A bubble of air 14 feet from the surface of water in a pond has a volume of 3 c.c. What volume will it have at a depth of 25 feet (water barometer 34 feet)?"

N.B.—This lesson has been selected as providing a striking example of the application of the Steps (Chap. XIII) in their purest form. The reader's attention should be directed to consider how far the value of the instruction would be diminished if *any* of the Steps were cut short, or confused, or omitted. Or, again, how far the instructor in physics is likely to go wrong, in dealing with immature minds, if he neglect the scientific study of the mental processes involved in apperceiving Boyle's Law.

V. CURRICULUM TABLE TO ILLUSTRATE CHAPTERS V, VIII, XI, and XVI.

The following Table is mainly a reproduction of a sheet prepared for transmission to public authorities, similar in form to the "Tabelle" issued annually by the Directors of *Realschulen* and *Gymnasien* in Germany. It is more effective than the Time Tables required at present by the Board of Education, for it shows at a glance the distribution of studies (both among the Forms and the Staff), while it permits elasticity in the details of allotment for each day. I omit here the various additional duties in Discipline, "House" interests, School Games, Libraries, Care of School Accounts, Teaching for Extra Examinations (Civil Service, University Scholarships, etc., etc.), which are laid upon Secondary Schools in Great Britain, whereas in foreign countries they play a very small part in the teacher's life. And yet some of these, concerned with the corporate life of the school (see p. 16, above), are more vital to the highest aims of education than anything contained in this Curriculum Table.

The time allotted to Science and Mathematics is determined by the Board of Education (South Kensington) Directory.

Staff in order of appointment.	SENIOR DIVISION.				
	VIth Form.	Upper V. Form.	Lower V Form.	Upper IV. Form.	Modern IV. Form.
Average age of Form.	17½	15	14½	13¾	15
No. in Form.	3	17	27	25	26
H.-M.	1½ Scripture.				2 M'them'tics
A.	4 French.*	4 Greek*	1½ Scripture 4 French 5 Latin 5½ Humanities	4 French	
B.	5 Science.*		‡ 5 Science		1½ Scripture. ‡5 Science* 4 M'them'tics
C.	A Special Time Table for each of the three pupils.				
D.			← 2 Singing (Choral Class)		
E.			6 M'them'tics*	‡ 5 Science *6 M'them'tics	
	← 2 Physical Exercises and Drill				
F.		3 Art		3 Art.	3 Art
G.	5 Latin*	4 Spanish*		1½ Scripture 7½ Humanities 4 Latin*	4 French
H.					
I.					
J.	6½ Humanities*				8½ Humanities
K.		13 Commercial Subjects* (Book-keeping, Shorthand, Commercial Geography)			4 Commercial Subjects*
L.	6 Mathematics*				

Extra Teachers—Carpentry, for 5 periods per week, and Instrumental

---

* During these periods the Teacher's attention is partly directed to Pupils requiring separate instruction, *i.e.* he has to attend to more than one set of pupils during the same lesson period.

Middle Division.			Lower Division.	
Lower IV. Form.	III. A Form.	III. B Form.	Upper II. Form.	Lower II. Form.
13¾	13½	12¾	11⅓	11¼
28	28	30	25	17
	2 Mathematics			
‡5 Science				
			1½ Scripture 11½ Humanit's 6 Arithm'tic	3 Humanities 5 Arithmetic
——2 Singing——→				
1½ Scripture 7½ Humanities 5 French →			6 French	
	‡5 Science 4 M'them'tics* →			
3 Art	3 Art	3 Art	4 Art	
4 Latin	6 French	1½ Scripture 10 Humanit's 6 French		
			3 Science	11½ Humanit's 3 Science 4 French 4 Art & Manual Training
	1½ Scripture 10½ Humanit's			
6 M'them'tics*		6 M'them'tics ‡5 Science		

Also one "Special" Hour per week, in which every Teacher takes a special group of boys in some branch for extra instruction. By this means, a little extra help is afforded to many boys in a branch in which at the time they are deficient. All new boys, *e.g.* go to Special French for the first term or two at this hour. Boys specially backward in Handwriting are sent to a special Writing lesson; Music pupils get a lesson in Theory of Music, and so on. The plan contradicts the maxim of p. 119, above, but it allows some place for supplementary work that otherwise would have to be wholly excluded. For this single hour, it is possible to break up the entire school into special classes, where each pupil finds his own special needs attended to. The success of the device suggests that another hour should be taken for the same purpose.

Music (other than the piano) taken by Teachers not on the Staff.

† Each figure in the List shows a lesson period (average 50 minutes).

‡ A Student Teacher, already qualified by scientific study, acts as Second Teacher (in place of Laboratory Assistant) for the Practical Work of these Forms in Science.

INDEX

SUBJECT INDEX

Italic print is used for terms employed in a sense special to the study of Education.

ABSORPTION, in Method, 319
Abstract bodies of Knowledge 62, 73, 279, 318
Abstraction, 324
Adolescence, 95, 234, 251, 374
Age-limits for schools, 97
Agriculture, classified, 72
Aim, in Method, 284, 314
Aim of Education, 6-9, 40
Alfred, King, 158
Alienation of school and home, 218
American Education, 106 (note), 113, 154, 157, 202 (Teaching of Art)
Analysis, in Method, 314
Apperception, 29, 38, 269, 273
Application, 267, 278, 295, 330
Armada, Knowledge of, 280
Articulation, 319, 366
"Art for Art's sake," 78, 171, 355
Arts, nature of, 57, 63-66; its rules, 59; classified, 76-80
Arts of Expression, 76, 145, 165, 191, 213, 243
— *of Representation*, 79, 145, 171, 201, 215, 249
— *of Construction*, 81, 83
Attention, 314

BACKWARD pupils, 399
Balance, 81
Beowulf, 157
Besinnung, 319
Bible lessons, 68, 185
Bi-lingual teaching, 116, 197
Bismarck, 334
Blackboard, use of, 392
Board of Education, 107, 124; Circular on Petroleum Lamps, 22; Code, 61, 135, 163
— Return of 1897, 93
— Reports, 222, 231, 264
— Minute, 111, 224
— Directory, 111, 226, 323
Book-keeping, 228
Botany, 240
Boyhood, features of, 98
Branch of study (adopted as a technical term), 21
Brush-work, 134

CADET Corps, 88, 252
Carpentry, 83
Certificates, Entrance and Leaving, 97, 109
Chemistry, 240
Child, cannot be left alone, 19, 20; but allowed elbow room, 21; regard paid to, in Christian ethics, 28; a social being, 51

Childhood, features of, 98, 130, 148, 152
Child-study propaganda, 95
Church, share in control of Education, 9, 10
City school life, 220
Civics, an abstract science, 73
Civil Service Examinations, 229
Class Teaching, distinguished from private tuition, 12
Classes, size of, 12, 13, 316, 385
Codes, purpose of, 94
Commerce, 227, 257
Common-sense, 116
Concentration, 43–48, 133, 142, 227
Contemplation, 337, 361
Continuity, 124
Control of Education, 5, 9–11, 69, 93
Cookery, 83, 204, 217
Corporate life of school, 16, 17, 51, 402
Corporations various, concerned in the Control of Education, 9
Correction of written work, 394
Correlation, 89, 86, 266, 314, 355, 415
Country schools, 220
Courses of Study, 97, 225-230, 235, 356, 383, 413–428
Cramming, 279
Culture-Epochs, 31, 69

DANCING, 89, 174
Darstellender Unterricht, 139, 289, 321, 398
Differentiation, 410; between Primary and Secondary Schools, 24 and Chap. IV
Disorder, 388
Domestic Economy, 83, 204
Drama, 77
Drawing, Method in, 355–375
Drawing Society, Royal, 171, 202
Drill, 88, 120, 173, 252

ECONOMICS, an abstract science, 73
Education, Definition of, 2
—— subject of, 3
—— scope of Science of, 5
Educational Values, 67
Emotion, 270, 274
Engineering, 72, 251, 256
Equipment, 23, 104
Ethics of the Period, 7
Examinations, as affecting Method, 316

FACULTY-PSYCHOLOGY, 33, 149, 151
Fairy-tales, 137, 154
Family, share in control of Education, 9
Feeling. See Emotion
Fidelity, 363
French schools, 109
Froebelian system, 129

GAMES, 56, 82, 83, 87, 173, 251
Genius, 115, 373
Geography, 61, 160, 176, 184, 211, 228
Geometry, 73, 164, 190, 242
—— lesson, 295
Geometrical Drawing, 122, 129, 165
German Education, 109, 127, 154, 229, 231
German lessons, 120, 245, 339
Gesinnungs Unterricht, 67
Girlhood. See Boyhood
Girl's Education, 112 (note), 240, 390
Government, 14, 17, 140
Grammar, 63, 74, 150, 191
Grammar, Nature of, 59, 74, 249
Greek Education, 42, 49

Groups of pursuits, 67-81, 255-258
Growth, 29, 92-98, 268
Guidance, 14, 17, 140
Gymnastics in Germany, 56, 127
—— classified, 87

Habit, 336
Handwriting, Method in teaching, 355-375
Harmonious Development. See *Balance*
Haslemere Museum, 180
Head Masters' Association Report, 109
Herbartians, 129; Theory of Culture-Epochs, 30
—— Scheme of Biblical Teaching, 69
—— Five Stages, 272, 328, 381
Hiawatha, 157, 159
Higher Elementary Schools, 111, 222
History, defined, 69, 179; scheme of, 179, 180, 210, 227, 236, 311
—— lesson in, 283
History, Outline to be used, 182, 288
Home Office Report, 208, 209, 217, 404
Home Lessons, *i.e.* Homework, 205, 308, 403
Humanities, 48, 67, 135, 144, 155, 179, 210, 235, 332
Hygiene, referred to, 14, 17, 214, 216

Imitation, 336
Imitative Exercises, 82
Impulse, 40-42
Industrial Schools, 217
Infant, features of, 130
Infant School. See Kindergarten
Inheritance, 25, 102
Intensive plan, 119
Interest, 35; fields of, 38, 60
—— acquired, 38, 165, 314
Interruptions to lessons, 387
Invention, 373

Joseph, Story of, 156

Kindergarten, 98, 100, 127
Knowledge, Nature of, 275

Language, 58, 76, 135, 165, 191, 243, 258, 277
Languages, Foreign, 194, 244, 339, 368
Latin, 246
Leisure, 233
Literature, 65, 181, 243, 272

Manual Training, Arts of, 80, 83, 203, 250
Material, 17; to be selected for the child, 20; the problem stated, 21
Mathematics, 73, 135, 144, 161, 188, 192, 212, 229, 241, 295, 311, 330
Memory, 100
Method, 17; to be directed for the child, 20
Modern Language teaching, 123, 194, 213, 243
Music, 77, 135, 143, 165, 170, 200, 214, 271, 355-375
Myth, 137

Nature Knowledge, 71, 144, 159, 186
Necessity, 23
Notes of Lessons, 378
Note-taking by pupils, 396
Novel, The, 138

Occupations, 42, 83, 160
Odyssey, 156
Ordnance Maps, 160
Oxford Magazine quoted, 122

PARENTS, 9, 404, 407, 408
Patriotism, 186
Performance, 276, 337
Periods of school life, 97
Periods (length of lesson), 402
Philology, 75
Physical Exercises. See *Recreations*
Physics, 240
Physiography, 61
Physiology, 187, 212
Play, nature of, 82
Poetry, of children, 66
Practice (in Method), 267, 369
Practice (or Conduct) of Education, 11, 12, contrasted with Theory, 12
Preparation, 159, 266, 286, 313 357
Preparation (Arts), 357
Preparatory Schools of England, 102, 173, 232
Presentation, 318–324, 360
Progress, 24
Public Schools of England, 102, 173, 218
Punishment, 391
Pupil, special use of term, 101, 178; various types of, 388

QUESTIONS and Answers, 397

READING, 166, 193, 287, 359, 362, 366
Recreations, 55, 81, 136, 171, 203, 225, 251
Reflection, in Method, 319
Renaissance, 22, 84
Restraint, 116
Rhythmical Exercises, 89, 174
Rights of the child, 22, 28
Robinson Crusoe, 155, Appendix I
Rules of Art, 59; a step in lessons in the Arts, 366

ST. PAUL'S School, 120
Science Instruction, 74, 186, 211, 229, 239, 255, 311 (and see Nature Knowledge)
Scientific Method, Canons of, ix
School of Science, 226
Scotland, 113, 228
Secondary Education, Report of Royal Commission on, 93, 105
Secondary School, The, 101, 103, 124, 232
Section, 268, 309, 354
Self activity, 40, 169, 332
Sequence, 121
Sesame House, 160
Shorthand, 228
Simon de Montfort, lessons on, 181, 285
Size of Classes. See Classes
Sloyd, 83, 85
Society of a school, 15, 17, 51
Socratic Method, 289, 397
Spanish, 247
Specialisation, 106, 234
Special Method, 265, 273
Spelling, 168, 365, 395
State, share in control of Education, 10
Story-telling, 139
Sufficiency, 118
Suggestion, 389
Swedish Drill, 127
Swiss schools, 109
System, xiv

Teacher, definition, 2, 4
Teaching, defined, 14–16
Technique, 338, 354
Technological studies, 107
Time Charts, 180, 238
Time-Tables, 117–121, 141, 174, 205, 225, 252, 402, 432–436
Tour, The School, 89
Training, defined, 15

Types of Educational Institution, 109, 410
Types of Method, 273

Uninterrupted answers, 139, 198, 290, 320
Universities, 101

Vertiefung, 319
Verse-making, 376

Waarenkunde, 229, 257
Wechselseitiger Unterricht, 398
Welsh, Intermediate Education, 109, 232, 236, 242
Writing, 169

REFERENCES TO WRITERS

Abbott, A., 421, 428
Abbott, Dr. E., 75, 170
Ablett, 170, 202
Ackerman reference, 32, 33
Acland and Ransome's *Outlines*, 182, 288
Adams, 32, 261, 415
Arnold of Rugby, 9, 14, 100 231

Bain, Alexander, viii, xiii, 6, 32, 309
Barnes, Earl, 95, 145, 321, 377
—— Mary Sheldon, 243
Beyer, Otto, 187
Bowen, the late E. E., 358
Browning quoted, 1, 92
Brudenell-Carter, 150
Bryce, James, 100

Carlyle, 76, 78
Castle, 296
Chapman, J. J., 147
Chrystal, 241
Clifford, 53, 161
Cockerton Judgment, 97
Comenius, 353
Cooke, Ebenezer, 129, 377
Cotterill, 19, 208, 218
Cowham, 160

Dale, On Learning to Read, 167
D'Arcy Thompson, 77
Davidson, 42, 49
Dewey, John, 5, 43, 49, 86, 129, 132, 138, 147, 154, 158, 161, 203, 389
Dickens, 18, 153, 330
D'Ooge, 137
Donaldson, 98
Dukes, 405

Farmer, the late John, 338, 358
Fawcett, 34
Fitch, Sir Joshua, xii, 104
Flinzer, 202
Froebel, 14, 27, 40, 126, 131, 145, 169

Goethe, 53
Gurlitt, 246
Guyau, 390

Hale, 77
Hall, Stanley, 95, 99, 231, 234
Hamerton, 77
Harcourt, Sir W., 374
Harris, Dr. W. T., 55
Haygarth, 241
Heffel, 241
Herbart, 1, 9, 14, 15, 18, 35, 42, 47, 53, 59, 60, 152, 178, 321
Herbert, George, quoted, 65, 85
Hirn, 58, 374
Hutton, 181

Isaiah, 18

James, Prof. W., 38, 334, 360
Jebb on Modern Humanism, 67
Johnson, Dr. Samuel, quoted, 6

Kant, 40, 53, 309
Kekewich, 362
Kipling, 20
Kirkman, 339, 351
Krause-Nerger, 349

Lange, 29, 38, 113, 313, 319, [illegible]
[illegible]e Blanc, 222
Leech, 418
Locke, 14, 27
Longfellow, 159, 354
Lowell, Biglow Papers, quoted, 8
Luther, 24

Mahaffy, 42, 82, 174
Marshall, 34
Michaelis, Madame, 129
Morant, 222
Morgan, Prof. Lloyd, 334, 361

Parker, F. W., 46, 61, 129, 166
Parker, on Classical Education, 77
Paulsen, 77
Perry, 190, 296
Pestalozzi, 6, 14, 36, 123, 129
Plato, 3, 353
Pope, 60
Prang, 202

"Q" quoted, 121

Rein, xiv, 1, 12, 13, 40, 129, 139, 158, 203, 289, 321
Reynolds, Sir Joshua, 54 63, 183, 353, 373
Riley, 126
Rooper, T. G., 353, 377, 405
Rouse, W. H. D., 77, 376
Rousseau, 27, 36
Ruskin, 23, 54, 59, 63, 81, 92, 137, 184, 364

Sadler, 231
Sarcey, Francis, 393
Sargant, work at Hackney, 66, 170
Scholz, Edmund, [illegible], 339
Scott, on Nature Study, 170
Seeley, lectures on Political Science, 9
Sidgwick, Henry, 53
Slaughter, 99
Somervell, 149
Smith, George, 106, 234
Sully, 336, 390

Tadd, Liberty, 202
Taylor, Isaac, 179
Tennyson, *In Memoriam*, quoted, 26; rules of his verse, 59; *Idylls of the King*, 157
Thring, 250, 400
Titchener, reference to, 32
Toynbee, 34
Twentyman, 339

Virchow, 172

Wangemann, 398
Ward, James, quoted, 32, 67
Willmann, 156
Withers, 180, 238
Wordsworth, 39, 53, 70, 147, 182

Zangwill, 46

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